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The Future of American

By GEORGE FIELDING ELIOT

(Author of *The Ramparts We Watch*)

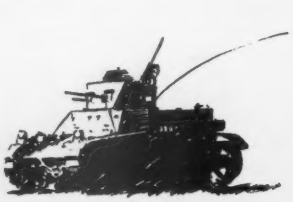
"Whoever," observes Von der Goltz, "writes on strategy and on tactics ought to confine himself to *national* strategy and tactics only, for no other can be profitable to the nation he is addressing."

To no nation in all the course of history have these words been more applicable than to the United States at this moment.

National strategy is largely a matter of geography. Military policy is largely a matter of providing the tactical means by which national strategy may fulfill its missions in war, and by its readiness to do so, reduce the risk of having to go to war at all. National strategy, national tactics, and military policy are therefore closely associated, are indeed indispensable parts of the same fabric. Only disaster can attend their separate consideration.

The ideal, of course, will never be attained. There will always be deficiencies and gaps, to be hastily filled up by extemporized means after war begins. Human foresight cannot become divine omniscience. Furthermore, there are economic considerations to be taken into account. Small countries with slim budgets cannot provide themselves with $70,000,000 battleships, for example, no matter how exposed to attack by sea; they will do better to devote the money available for their navies to the provision of submarines, coastal motor-boats and seaplanes.

But the United States today is in a unique situation. Possessed of economic stability and national wealth sufficient for all reasonable purposes, we are further advantaged by a geographic situation which relieves us of



the major military preoccupations of other great powers. Provided only that we remember the need for *national strategy,* backed by *national* tactical equipment, we shall be secure indeed.

The fundamental difference between our military requirements and those of other powers are so great, and their effect upon our national policies so far-reaching

Cavalry

(and so favorable to us as a people) that they cannot too often be recapitulated. They require of us the most careful and indeed ruthless examination of every instrumentality of warfare, of every element of our military policy and its strategical and tactical implications, with the single question ever in mind: "How are *we* going to use this in war?" Never mind how necessary it may be to Germany or Britain or Yugoslavia. What good is it to *us?*

In Europe, the era of air power has brought about tremendous changes. Every European nation must give thought, first of all, to defense against air attack: to purely defensive means such as antiaircraft artillery and pursuit aviation, and to the means of reprisal-bombardment aviation. We alone are not exposed to direct air attack by large formations. We therefore find our principal use of air power to be a reinforcement to our seapower, particularly the employment of long-range bombardment aviation on an exposed maritime frontier or in the defense of localities of particular military interest (Panama, Hawaii); and as a tactical element in our fighting teams (fleets and armies) which will always require a suitable air component. As long as we keep *hostile air bases* out of the Western Hemisphere, air power is therefore a greater help to us than it is a threat—a remarkable reversal of European conditions.

In Europe, every considerable nation has powerful neighbors who may invade it or its allies with great armies, and must therefore provide itself with armies of like power and resources. Even Britain, no longer a military island, has been driven to adopt this policy. We do not have such preoccupations, for we have no powerful neighbors; any army which invades us must come to our shores, or at least to the Western Hemisphere, by sea, as must any great air force.

The control of sea-communications is therefore our principal military consideration, the foundation of our national strategy and of our military policy.

When we leave the realm of strategy for that of tactics, we find equally significant divergencies from the European scene. The long-range bombardment plane, capable of acting at a considerable distance from its base, or rapidly reinforcing an outlying position, of conducting operations far to seaward or of patrolling between distant island outposts, is the air weapon of maximum interest to us, while to a European power expenditures on great range at the expense of bomb-load are largely wasted. Many European naval writers (even British) are today beginning to doubt the efficacy of the capital ship, having in mind the conduct of naval war in the North Sea, the Mediterranean, the Baltic; within easy range of enemy submarine bases and shore-based aircraft. Our naval problems, having to do with the control of oceanic lines of communication, must rest on the secure foundation of a strong battleship force, to which, if an enemy be not able to oppose it in kind, he must abandon the seas.

It is the same when we come to the ground forces. Barring two major calamities, against both of which provision may be made, it is difficult to see what we shall ever need of a mass army such as every European power must today maintain. Those two calamities are (1) our again undertaking to intervene in major operations on the continent of Europe, and (2) our allowing our general condition of armament by land and sea to sink to so low a level as to make the invasion of our territory, or that of one of our neighbors, a conceivably profitable proposition for any other power. Provision against the first calamity is a matter of ordinary horse-sense, which we may hope will possess sufficient strength to overcome emotion and propaganda; if it does not, at least we are not likely to undertake such a thing in default of allies in Europe, and will have time to prepare. Provision against the second calamity is a matter of keeping up a proper naval and military force, at such a level of training, equipment, and readiness to act, and so distributed and based, as to impose a prohibitive risk on any foreign power which may contemplate challenging us in arms.

It is clear enough that in our military problems, the navy must come first. The size and disposition of our fleet must of course be based on the size and disposition of the naval forces which it may have to meet in action. We should maintain a safe margin of superiority in fighting strength, coupled with a proper disposition of bases to

give the fleet a radius of action suitable to all probable contingencies in all vital theaters. For this purpose, however, it is essential that the main fighting elements of the fleet be kept concentrated, and on no condition divided between our two oceans. This will always entail the risk of having the fleet in the wrong ocean at the outset of hostilities, and imposes upon us the need for assuming a defensive attitude on the "exposed flank" until the fleet can arrive.

As to the bases themselves, it must always be remembered that a naval base is useless unless it is defended. Defense must be appropriate to the scale and character of attack which may reasonably be anticipated; but it cannot be left to the fleet, it must be the responsibility of localized or mobile elements of the army, reinforced as need be by local defense flotillas of submarines, torpedo craft and minelayers and by aviation of both services. Similar reasoning applies to air bases. The commander of a fleet, or of a strategic air formation, must not be tied down to the defense of his base. His freedom from such anxieties is absolutely essential to his efficient execution of the offensive missions for which his force is designed, and by which *only* it can justify its existence. Naval power and air power must always have the support of land power. The most cursory student of the military history of the British Empire cannot fail to observe how the growth of British naval power and colonial expansion was attended by the successive appearance in all the maritime theaters of the world of garrisoned and fortified bases, supporting and maintaining the fleet which in turn assured the communications of these outlying bases with the homeland, the British Isles, which was in itself the central base upon which the whole worldwide structure of Imperial power, linked together by sea-routes, depended. This system was able to maintain itself only as long as the central base was secure from direct attack save by sea; neither the central base, nor any of the outlying bases needed a garrison beyond that necessary for temporary and local defense until the fleet could strike at the communications, necessarily maritime, of the attacking force.

These various considerations, and the principles upon which they are founded, clearly indicate the rôle of our own army in our strategic plans.

First, to defend the bases of the fleet, both the home bases and the two great advanced bases—Hawaii and Puerto Rico.

Second, to insure the swift and protected passage of the fleet from one ocean to the other, by defending the Panama Canal.

Third, to provide forces necessary for defending one of our maritime frontiers against attack in the absence of the fleet.

Fourth, to provide small, quickly available expeditionary forces for missions of limited extent and objective, such as occupying an advanced base for the fleet, or driving a hostile force out of the territory of one of our American neighbors.

Fifth, to provide the framework for a citizen army of defense, in the remote contingency that our fleet should be defeated and our home territory threatened with invasion.

What sort of an army is required for these purposes?

Obviously, first of all, an army ready for immediate service. An M-day army, not an M-day-plus-60 army, still less an M-day-plus-6-months army; at least as to the first four missions. Historically, this is the sort of army which has always been required by a power whose military policy was primarily maritime. Not a great mass army of conscripts, of various degrees of removal from full efficiency, but a small, highly trained, regular army of professional soldiers, fully equipped to do particular jobs, and to do them quickly and thoroughly.

The army of a maritime power must possess as high a degree of immediate readiness for action as the fleet.

If, therefore, as to the functions to be expected of regular troops, we have determined upon unit strengths adequate to the performance of war missions, based on tactical considerations and on the extent and character of the armament to be furnished each unit, we must either maintain all units at war strength in time of peace, or we must have immediately available for each unit the proper number of fully trained reservists who can take their places in the ranks at a moment's notice. Where such reservists are not available, as in outlying possessions, the garrison units should be at war strength from the beginning. Where the nature of the arm, or the special degree of readiness required, makes the use of reservists inadvisable, units should likewise be kept at war strength. This may in some cases mean a reduction in the number of units; but the policy ought to be, under our peculiar military circumstances, to have a sufficient number of immediately available units rather than a much larger number available *in the dim and distant future*.

The division of responsibility between the regular army and the National Guard becomes quite clear when thus presented. M-day jobs should in general be committed mainly to the care of regular troops; the National Guard should be the backstop, the reserve for future contingencies, the framework for the citizen forces which may be needed if and as and when.

We may now—and about time, too! the cavalry reader will be remarking—examine the part which cavalry should play in discharging the various missions which our army may be called upon to perform.

In the first mission—defense of the navy's bases—cavalry has little to do in Hawaii or Puerto Rico; but in defending one of our home bases against a sudden swiftly striking raid, a fast-moving force of mobile troops able quickly to bring a high concentration of fire-power to a threatened point might well be all-important.

In the second mission—defense of the Panama Canal—terrain difficulties seem to limit the use of Cavalry; a small force of this arm could be usefully employed, however, for the protection of isolated landing-beaches and the trails leading therefrom, especially on the Pacific coast.

In the third mission—defense of an exposed maritime frontier—considerably larger forces of cavalry than in the first mission might be needed. Here again a force which could strike quickly and strike hard would be vital; the quicker and more powerful such an attack, the less likelihood of the enemy effecting a lodgment.

In the fourth mission—expeditionary forces—the terrain of the theater of operations would determine the value of cavalry and the extent of its participation in each case; in most Western Hemisphere theaters the chances are that one or both types of cavalry would be required.

For the fifth mission—providing the framework for a reserve force—cavalry in large numbers can hardly be provided, save at an expense out of proportion to the likelihood of a need for it. As General Herr truly remarked in The CAVALRY JOURNAL for January-February, 1939, American cavalry is a long way ahead of European cavalry in most respects; but there is one lesson we may learn from Europe: that there is no use counting on filling up a skeleton cavalry organization to war strength on mobilization. Indeed, Europe works the other way. European powers normally maintain horse cavalry regiments with an extra squadron (troop) over the war establishment. On mobilization, a five-squadron regiment takes the field with four squadrons, the fifth squadron (having taken over the sick men, recruits, and young horses of the other four in exchange for its own trained men and horses) forms the regimental depot. Squadrons have the same establishment in peace and war. The theory is that if you want cavalry at all, you want it right away. Of course it may be contended that in Europe conditions are different, with enemies glowering at each other across frontier lines. We have emphasized the differences between America's requirements and Europe's, but the state of readiness in which cavalry must be maintained is not one of them. This has particular reference to the third and fourth missions above stated, in which we might have to drive out an enemy who was trying to seize a position on our coast (for an air base, for example) or one which for that or some other purpose had invaded the territory of one of our neighbors.

It remains to inquire what sort of cavalry we need for the tasks it may have to perform.

For dealing with raids on our coasts, the character of the raid will have a good deal to do with the matter. An enemy attempting to set up an air base might well choose a remote locality, hoping to get his planes ashore and into action before he is disturbed. In such a case (because roads may be few or bad) horse cavalry might be able to reach him better than mechanized units. A more ambitious attack would necessarily have an important strategical objective, and would hardly attempt landing save where a suitable road net was available; hence, mechanized cavalry would almost certainly be able to get at the enemy quicker than any other ground element not immediately on the spot. In all such cases, the great requisite is speed. The quicker an enemy who is trying to effect a landing can be attacked, the better chance of catching him astride of the beach, or disorganized by air attacks, or by unknown terrain; the better the chance of cutting off some detached element, of breaking up his plans in general.

Even a single regiment of cavalry, possessed of the weapons assigned to it by our present Tables of Organization, ought to be able—if boldly and resolutely handled in anything like favorable terrain—to offer serious opposition to the landing and immediately subsequent operations of a very much larger force. Delay imposed by such cavalry action may not only enable other forces to arrive, but will produce congestion on the beach and consequently excellent targets for our aviation.

Remembering always that the principle of concentration must govern the disposition of our fleet, it should be a principle of our national defense that the Army, with the assistance of local defense units of the Navy, should always be able to defend one of our maritime frontiers. If the fleet were seriously engaged in one ocean, or the Panama Canal blocked, these defensive operations on the exposed coast might be of a protracted and serious character, requiring a considerable mobile force of all arms, adequate to deal with the maximum hostile effort which might be brought to bear against us; or, from another point of view, so fully ready to deal drastically with such a hostile effort as to render the launching of that effort unlikely. Here again is emphasized the need for an Army fully trained and equipped, possessing a high degree of mobility, and immediately ready for emergencies. For operations in our terrain, a proper proportion of cavalry is an absolute necessity for such a mission; the more so, as the superiority of our cavalry to foreign cavalry for the sort of operations which American terrain demands, would be likely to lead to those initial successes which are so valuable, not only intrinsically, but from the point of view of military and civilian morale.

For "limited objective" overseas expeditions of our own, our employment of cavalry (as already remarked) would be determined by the terrain of the proposed theater of operations. Mechanized cavalry is useful in quickly enlarging a beachhead, if the terrain permits. If penetration of the interior were demanded, either kind of cavalry—or both—might, according to conditions, be required.

For circumstances which might require operations in the territory of one of our continental neighbors, cavalry in considerable numbers might be the only arm which would enable us to "git thar fustest with the mostest men"—or the highest concentration of fire power, which comes to much the same thing. If we had to help our Canadian neighbors expel an enemy from Eastern Canada, for example, where there are at least a certain number of good roads, our mechanized cavalry would probably be first in the field. If Mexico were in question, we should have to put our confidence in horse cavalry to a larger extent.

How much cavalry do we need for these various missions?

It is a hard question to answer. A start might be made

by surveying as a whole the sort of mobile ground force we ought to have in the Continental United States. Theoretically, we are supposed to have nine infantry divisions of the regular army. Actually, we have one division pretty well organized, two more organized on paper, and a lot of scattered regiments. Many of the infantry and most of the field artillery regiments lack one or more battalions or batteries. Almost all of them are woefully short of modern equipment. But let us look forward to the better days which seem to be coming; let us anticipate that we shall build up a force of nine regular infantry divisions and fully equip and arm them. We can't do it all at once; perhaps we shall create a force of five divisions first, then add others until we have nine.

The infantry, despite all detractors and scientific forecasters, is still the basic arm for operations on the ground; a fact to which a one-time doughboy is proud to bear witness. These infantry divisions, therefore, are the foundation of our fighting force, the elements upon which we must depend for a decision. They have the two requisites of mobility and fire power. But it is a principle from which there is no escape that as you increase fire power (and the power of sustained effort) you decrease mobility. Infantry cannot retain its essential characteristics, the characteristics which make it the decisive battle element of armies, and at the same time have high mobility. There must be a separate arm for purposes requiring great mobility—for striking quick hard blows at a distant foe, for reconnaissance, pursuit and covering missions. Historically, this has always been true, the relationship between infantry and cavalry varying with the times and with the development of armament, without altering the basic need for a due recognition of the antipathetic qualities of sustained striking power and high mobility.

It is unfortunate, indeed, that so large a part of our American public (as the writer has had occasion to observe during a recent "National Defense" lecture tour) should have somehow acquired the idea that the new infantry division now being experimented with in Texas is an entirely motorized unit, and that in future great forces of all arms will "go roaring down the road" at forty-five or fifty miles an hour. As General Herr has pointed out, this is by no means the case, nor can be the case, and the need for a mobile force which can act at a distance or conduct the service of security and information is as great today as it was when Hannibal's Numidian horse spread out from the passes of the Alps to harry the plains of Italy.

Based, therefore, on a force of nine infantry divisions (three corps) what should be the cavalry component of our regular army?

We should, to begin with, bear in mind the need for a *balanced* striking force, complete in every element necessary for the performance of its various missions; indeed, this necessity for balance, for due proportion, and conversely, the need for avoiding over-emphasis on one element at the expense of others, is particularly necessary for American military policy. Just as the national defense, as a whole, must strike a proper balance between Army and Navy, and as the Army, as a whole, must strike a proper proportion between overseas garrisons, air force, harbor and antiaircraft defense troops, and a mobile ground force within the Continental United States, so in considering this last element, a proper proportion between those elements whose principal characteristic is sustained battle-action, and those whose principal characteristic is mobility, must be achieved. This need is the more imperative in the type of Army which seems best adapted for American purposes, limited in numbers and highly trained for particular types of missions.

Considered in this way, it appears essential that there should be added to the three infantry corps a cavalry corps, including both horse and mechanized divisions. Eventually, in the writer's view, our cavalry should have two mechanized divisions and two (possibly three) horse divisions. There seems to be sound logic in reducing the size of the present horse division by eliminating the brigade echelon of command and forming the division on the basis of three cavalry regiments plus the necessary supporting and auxiliary elements; however, both this and the proportion of horse and mechanized elements in the whole cavalry force can best be determined by experiment, by the actual constitution of a cavalry corps and subsequent field tests and maneuvers in the excellent terrain available in the southwest. All cavalry divisions of the regular army should be maintained at full war strength; if needed at all, they will be needed quickly. Cavalry is an M-day force.

Maintaining two mechanized divisions is favored because this arm cannot be improvised under any circumstances, and because with our increasingly good road net it forms such a powerful striking force, which can be quickly hurled against any enemy which may appear. For reasons of efficiency as well as economy, these divisions ought not to be split up, hence, if we have two of them, we can maintain one at Fort Knox, ready to act to the eastward (northeastward, southeastward), and another in the southwest, ready to act in Mexico or on the Pacific Coast.

Two horse cavalry divisions and the headquarters of the Cavalry corps should normally be maintained in the southwest, and the mechanized divisions should exchange stations at intervals in order that both might have the experience of training with the horse divisions under the Cavalry Corps command, in the favorable terrain existing in this region.

What steps can be taken immediately toward improving our cavalry organization? We have at present in the United States 14 regiments of cavalry, 12 horse and 2 mechanized. We have one cavalry division (horse) now set up. There are few serious obstacles in the way of creating another horse division, which would involve little more than creating the staff, train, medical units and special troops, bringing the 84th Field Artillery and the 9th Engineer Squadron to full strength, and assigning to the new division three cavalry regiments (since this would seem an excellent opportunity for testing a 3-regiment

and a 4-regiment division side by side). The principal difficulty might be in changing the station of one or more cavalry regiments, which ought not to be a prohibitive barrier to progress. Next, the present 7th Cavalry Brigade (Mechanized) might be placed on a divisional status, with perhaps an additional mechanized cavalry regiment (for which purpose the 15th Cavalry might be rescued from the inactive list). When the corps staff and corps troops were set up, we should then have at least the beginnings of a real cavalry force; and with the benefits to be derived from working with it under field conditions, we ought to be able to form better opinions as to the details of cavalry organization, armament and training than at present. As quickly as possible, of course (as quickly, in fact, as trained men and horses and additional equipment became available) we ought to raise all the elements of these three divisions to war strength.

This would leave still unassigned 5 regiments of horse cavalry (exclusive of the Philippine Scout regiment, whose future is uncertain). Experiment might determine that some of these should be formed into a third horse cavalry division; but it is the writer's opinion that there always should be at least three horse cavalry regiments available outside of the divisional organization, for use as corps cavalry (for infantry corps) if needed, for temporary attachment to divisions requiring reinforcement for particular missions, or for small independent missions. For the latter purpose, their assignment to outlying posts such as the Presidio of Monterey, Fort Oglethorpe, Fort Ethan Allen, far removed from the two main centers of cavalry activity, would make it likely that at least a small force of cavalry would be available whenever wanted in an emergency. These regiments should remain horsed, but they might well have an increased allowance of scout cars and perhaps a platoon of combat cars each.

Viewed as a whole, the proposed plan would have the advantage of not breaking up existing regiments, with fine traditions and spirit. It would not require the immediate creation of new cavalry units (except the 15th Cavalry and five-eventually, nine—reconnaissance squadrons for the infantry division, which should be cavalry units forming part of the divisional organization). It would produce a considerable increase in the numbers of cavalry available, an increase largely confined to junior officers and enlisted men; this would be achieved by bringing existing units to war strength.

The eventual minimum cavalry objective, as the writer sees it, should include:

(1) A concentrated striking force of two or three horse divisions and one mechanized division, organized and trained under a single command, able to move quickly toward any theater where it might be required.

(2) At least one additional mechanized division, so that one will always be within quick and easy reach of either coast or either border.

(3) At least three smaller cavalry units so disposed as to be able to "fill in a gap" in an emergency.

(4) A reconnaissance element with each infantry division.

It is submitted that such an organization will enable our cavalry to perform any mission which may be required of it in war, excepting in a case where we might have to raise a large mass army; and for this purpose we have the National Guard Cavalry, perhaps supplemented by reserve regiments to be formed around nuclei of cavalry reserve officers. There will be plenty of time to get these Guard and reserve units ready if they are needed, for reasons already set forth—provided we do not fall into the folly of cutting down our first-line elements (fleet and regular army) below the level of safety.

Emphasis has been placed in this "cavalry plan" upon the matter of strategic distribution. This is just as important for the army of a maritime power as for the fleet. Time is all-important in modern warfare, when the range, speed and destructive power of the instrumentalities of warfare have been so enormously increased; Major General Rowan-Robinson, of the British Army, calls it the "fourth dimension" of strategy. The best ships, the finest troops, are of little use unless they are on hand when and where they are needed. Even a comparatively small force, if present at the decisive place and time, may be worth far more than a much greater force which arrives too late. Indeed, it may make the creation of the greater force unnecessary.

Many years ago, George Washington observed that what we need is not a large army, but a good one. That is as true today as it was when our first Commander-in-Chief wrote those words; and it applies to the cavalry as well as to every other element of the army. What we need is not a scattered lot of indifferently equipped squadrons and regiments at half strength or less, but a cavalry force trained, armed, equipped and organized to *hit hard, hit quickly* and *hit together*.

Above all, in this as in other military questions, we must continue to adhere strictly to the American point of view, to examine every military instrument in the light of American necessities. We reorganized our army in 1917 along European lines, to fight in a European theater alongside European allies. We are still suffering from the effects thereof, and from the trench warfare ideas acquired not only by military men, but by the general public. A start is now being made toward a new reorganization to meet American requirements. It is a healthy sign. We are altogether too prone to take as gospel the dicta of foreign military opinion; from such sources, and notably from British sources, has flowed much of the current insistence that cavalry is obsolete, a war of movement impossible, trench stalemate inevitable, and so on. Yet it should be apparent to any intelligent person that a war in Western Europe must be fought under decidedly different circumstances from a war anywhere in the Americas. The quicker we return not only to the conception, but to the practice—in training, in armament and in organization—of the principles of a war of movement, the better our army will be on the day when it again faces trial by battle.

PROMOTION.....By Agrippa II

"Where there is no hope there is no life."—CONFUCIUS.

The question of vitalizing promotion of commissioned personnel in the Army has not burst suddenly into the open on the wings of emergency. It is a problem that has been appreciated in the War Department during the past fifteen years. Personnel studies exhibited as far back as 1926 drew an accurate picture of the days ahead. Among the more farsighted the proposition of age in grade retirement was advocated and discussed. Accordingly, the proposed bill now in the hands of Congress is the result of many years of study and is not a presentation of a situation which has suddenly grown acute.

Evidently, many are of the impression that current international conditions have motivated the initiation of action on this problem at this time. This is not so. The world has been facing a series of crises during the past eight years and will, in the present light, continue to face uncertainties for many years to come. The major problem involved is not one of today but one that becomes increasingly more serious as the years go by. This legislation is peace time planning, not a makeshift measure of the moment.

Many factors have contributed to the conditions which confront us today. The so-called hump created by absorbing an unbalanced block of wartime officers in 1920 was predicated and envisioned primarily upon measures incorporated in The National Defense Act, passed by Congress in that year. That act provided for an American Army of 280,000 men and 18,000 officers. Upon that basis the gradual and successful absorption of a large block of officers appeared a justifiable assumption. The attrition which would have ensued from a commissioned strength of 18,000 reasonably would have largely absorbed or eliminated the danger of the hump which has since developed. Those responsible for the policy which initially brought into the service this block of officers of relatively the same age, but extending over wide limits on the promotion list, could not have foreseen the resultant stagnation in promotion, for they planned on sufficient vacancies to absorb incoming increments at a reasonably high rate of attrition. The present crisis in promotion has resulted largely from the curtailment in the provisions of The National Defense Act. As that act and its subsequent restrictions were promulgated by Congress it would appear that it is the responsibility of Congress to ameliorate resultant conditions and restore to the Army an assured efficiency for the future with justice to all and partiality to none.

Chart I

American mortality figures have shown for years a rate of approximately 11 per thousand. An investigation of actuary figures among commissioned personnel shows that no such rate is applicable to this group. In fact, the rate is so low that from an insurance point of view it is perhaps the best risk of any circle in the country. Due to the rapid promotion which took place in the pre-war group of officers who came into higher rank at a relatively junior age, the outflow due to age has in no way assisted toward the solution of a reasonable rate in the promotion attrition.

What is this "hump" on the promotion list? In reality is it the presence on the list of some 4,300 officers with relatively the same length of service and very close to the same age? Chart I demonstrates more clearly than can words the existence and meaning of that term. Roughly, the vertical scale indicates the number involved; the horizontal scale, the ages involved—both as of June 30, 1938. As an example, on the horizontal scale take the line representing 47 years of age. Going upward to the captain curve, one sees that on the foregoing date there were approximately 84 captains of that age; going farther up the chart one finds 285 majors; and still farther, 390 lieutenant colonels.

The chart likewise indicates the presence of officers from captain to colonel, inclusive, in the upper age brackets. Actually, under desirable conditions, such a chart should show only colonels to the right of the year line representing 52 years of age; instead, one sees at that age: 20 captains, 56 majors, 105 lieutenant colonels.

The heavy dotted line running diagonally downward across the chart represents the best possible age line under an attrition of 3.8. (The attrition figure 3.8 has been the figure of the average rate of attrition in the Army for the past 70 years. Under an attrition of 4.35 this line would be even more favorable.) The slope of this line is based on a promotion list strength of 10,500. For grades at appropriate ages, all grade curves should hew closely to that line. Look at the chart. Age grade curves above the line are out of proportion to a balanced promotion list and show up as the "hump."

As time continues this hump will move slowly and gradually to the right until it absorbs completely the entire grades of colonel and lieutenant colonel. In the meantime, all personnel to the left of it will continue to be represented by the lower grade curves on that part of the chart. When the right edge of the "hump" hits the year line of 63, retirements for age will accelerate rapidly. By that time, however, officers in the grade of captain will be well along in years and those in the grade of major will be well into their fifties. As the "hump" surges out of the service as a group, another similar group will have appeared behind it as the existing number of vacancies are filled. The vicious circle will then be complete.

Four years ago Congress saw fit to enlarge The Corps of Cadets. This year, 1939, the country will benefit from that action. Approximately 450 young graduates will be available to the service. Under present conditions that number of vacancies do not exist. The proposed increase in the Army may suffice to absorb the great bulk. As these young officers look ahead under present conditions, however, they will do well to realize that although they go through the grades of 2nd and 1st lieutenant with reasonable length of service, they will, as captains, follow a long, long trail.

If no legislative action is taken at this time let us examine what the future holds for the great majority of the commissioned personnel. Glance at Chart II. Should attrition continue at the present low figure the grade of colonel and lieutenant colonel will be reserved for those in the extreme upper age bracket. The figures on the left represent the beginning of a fiscal year. The next column under colonel shows which year group enters that grade for that fiscal year and at what average age. For example, take the fiscal year 1948. The upper half of those officers who entered the service in 1916 will attain the rank of colonel at an average age of 56. The senior files of the lower third of the war group (who were commissioned in 1917) will attain the rank of lieutenant colonel at an average age of 55. Those who came into the service in 1924 will become majors at an average age of 47. The picture is not good.

	Colonel		Lt. Colonel		Major	
July 1st	Year Group	Average Age	Year Group	Average Age	Year Group	Average Age
1940	1910	54	1917	47*	1918	50†
1941	1911	53*	"	47	"	46
1942	1911	54	"	50†	"	48
1943	1912	55	"	50	"	47
1944	1912	55	"	50	"	47
1945	1913	55	"	57†	1921	47
1946	1914	56	"	56†	1922	47
1947	1915	56	"	54	1923	47
1948	1916	56	"	55	1924	47
1949	1916	57	"	56		
1950	1916	58	"	57		
1951	1917	59	"	58		
1952	1917	60	"	63		
1953			"	59		

*(Irregular)
†Scattered.

CHART II: Average age by year group of officers entering grade in the fiscal years shown — attrition 2.5%.

Chart III is presented merely as a graphic representation of the situation. The graphic curve designated (1) indicates prospective promotion for age in grade under the attrition figure of 3.8 which was the average during the past 70 years. It is possible that those who drew up The National Defense Act in 1920 visualized and planned on a rate close to this figure. Curve (2) shows what is happening today with an attrition of approximately 2.2. Curve (3) represents the situation under the desirable attrition figure of 4.35.

For an impartial study of this problem three distinct groups have to be considered; namely, the pre-war, war, and post-war. There is a widespread opinion that the bulk of those who would be effected by the proposed legislation are mainly in the war group of officers. This is not so. The initial pressure from this legislation strikes those in the pre-war group. One might say that a large portion of this group are being forced out by pressure from be-

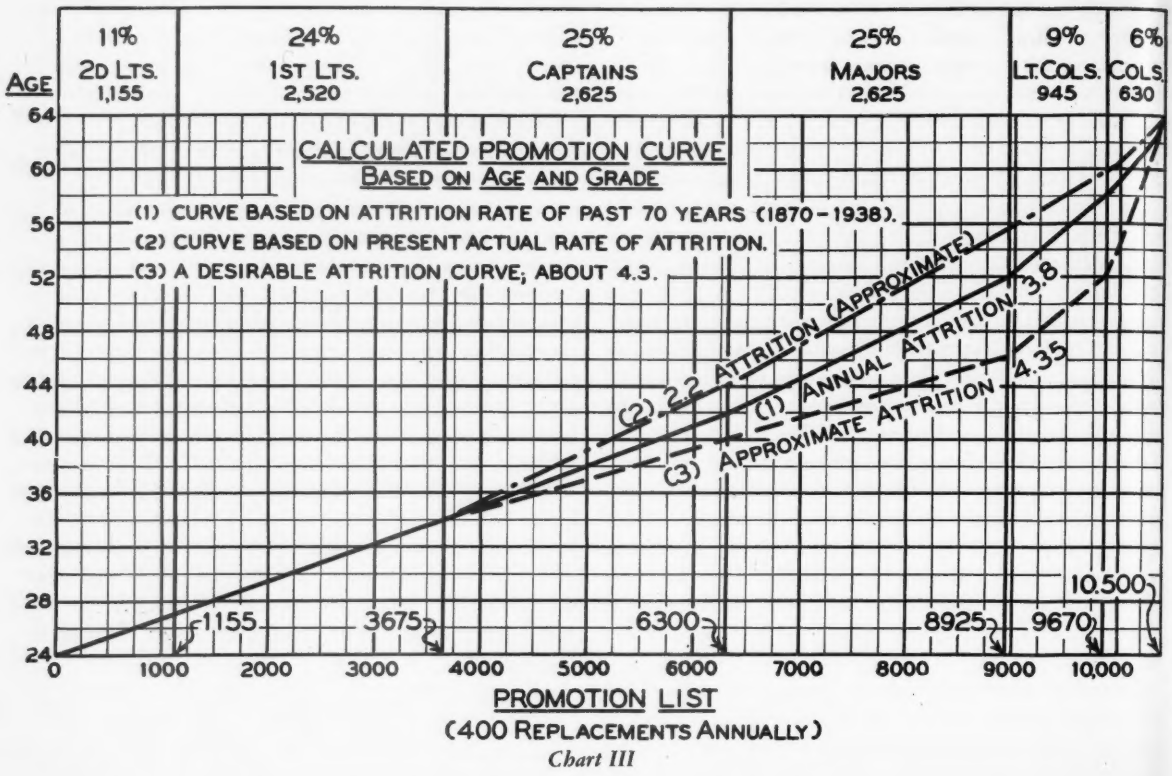


Chart III

hind. In the same breath others hold the view that pressure is on the war group, as they form a block for future advancement of post-war officers. Actually, any discussion confined to the effect on any group is without justification. A serious situation confronts the efficiency and welfare of the American Army, and the proposition of national defense surmounts any consideration of any individual or group of individuals. When you consider the fact that the *senior post-war officer* under present conditions will not reach the rank of major until 1945, or after 25 years as a company officer, the situation is apparent.

Assertions of injustice in this legislation are without foundation. Those who find themselves in the grade of captain or in the lower bracket of the grade of major manifestly accepted commissions at an age far in excess of that considered normal for such appointments. For instance, any captain now 55 years of age must have accepted a commission during his middle thirties. Such an individual knew at the time that the commission was accepted that any future possibility of eventual high rank in the army was beyond a reasonable hope. Congress in recent years saw fit to assist in a solution of the problem by authorizing voluntary retirement on the basis of retired emoluments at 2½% per year of commissioned service. The new action is far more adequate and generous. It provides full retirement prerogatives to any individual affected.

Some of those who are unsympathetic to the proposed legislation appear to hold views that the problem can be solved by other means. One nationally known commentator has even suggested that the entire block be promoted and that any surplus in these higher grades be furloughed for a period of years to civilian life. This does not answer the question at all. This proposition in no manner fulfills the necessity of vacancies in the higher grades through which an increased attrition will result sufficient to provide a free and normal flow of promotion. It is also said that the country will lose the services of highly trained officers, any and all of whom are potential material for corps commanders in time of war. Anyone placed on a retired list is not lost to the country in case of war. The mere scratch of a pen can restore him to active duty. Others say that under the proposed plan we are sacrificing trained officers for new and untrained second lieutenants. That is true today, but looking forward only four years we would find the older officer merely an older individual, while in the lieutenant with four years service we would have a trained, valuable combat officer.

Others preach the plan of promotion by selection up or selection out. The present system of "Class B" is in reality a system of selection out. When it is realized that for the past fiscal year a total of only 11 officers of the 8,800 in the grades from captain to colonel, inclusive, were classified on their efficiency reports below the rating of "very satisfactory," the fallacy of such a plan needs no further discussion. Many feel that promotion might be based on selection, particularly when considering the post-war group of officers. So many factors enter into this proposition as to suggest its discard at once. In any system of selection someone has to do the selecting. In the navy, under this system, this duty falls to a selection

board. There can be no doubt, considering human nature, that personal knowledge of an individual frequently works to his advantage. Therefore, the first factor which enters into a system of this kind is "Whom do you know, or who knows you?" Even one member of the board favorably impressed by former contact with an individual may introduce the possibility of a sympathetic consideration. In the event that none of the candidates for promotion are known to any members of the board, the manner in which their record is presented is a formidable factor. Where one individual's record is presented in able and persuasive fashion that individual may be more fortunate than should his record be presented by one less articulate or less persuasive. Any such system just does not work equitably and satisfactorily to all concerned.

The system proposed by the legislation now before Congress is the most reasonable and the most equitable that can be devised. It prejudices no one. Separation from the service becomes only an accident of birth or date of acceptance of a commission. It reserves to every individual perhaps civilized man's most precious possession—self respect.

Should the proposed bill fail to materialize the problem is still with us. It is one which eventually must be answered. The longer it is delayed the more acute it will become, and if delayed another ten years, the most stringent measure will be necessary to rectify the situation. The measures taken at that time will make the present proposals seem mild and generous indeed. If remedial measures must be taken, why not now?

CHIEF OF CAVALRY VISITS FORT KNOX

Major General J. K. Herr, the Chief of Cavalry, and Brigadier General Adna R. Chaffee, commanding Seventh Cavalry Brigade, in conference with officers at Fort Knox, Kentucky, prior to a tactical ride conducted during a recent visit by General Herr.

New Developments in the Organization and Equipment of Cavalry

By LIEUTENANT COLONEL R. W. GROW, Cavalry

When we gauge new developments of any arm we consciously or subconsciously consider the progress made since the World War. The American forces came out of the Meuse-Argonne a proven army that had stood the test of modern battle and was pretty well equipped with the best material of the day. New developments in equipment, in most cases, can therefore be traced directly to our own World War experience. Such is not the case with our cavalry and to this may be attributed much of the misconception of this arm today. Practically no American cavalry saw service as such in the World War. Not only did American cavalry lack war experience of its own on which to base subsequent development but the American Army lacked experience in combined action with cavalry although splendid opportunities for decisive successes by means of cavalry coöperation were presented at Saint Mihiel and later in November, 1918. It is, therefore, only natural that the casual student is inclined to think of cavalry either in terms of our Civil War or the French and German cavalry in 1914. Only the more thorough investigator will research the eastern and near-east fronts where the British cavalry, particularly, approached the American standard.

Our heritage of 1865 gave us a running start by the time of the World War but this war offered no opportunity to determine in battle to what extent we had outstripped foreign cavalry in methods and equipment. All we know positively is this: During the World War, the greatest success was always attained by that cavalry which most nearly followed American doctrine, both as to employment and equipment. Therefore, we do not believe it unreasonable to assert that the World War proved American cavalry doctrine to be sound. This doctrine, which has undergone no basic change, charges cavalry with the execution of those missions which require a highly mobile fighting unit. It contemplates the employment of cavalry in large groups in a war of movement, the only type of warfare that we can visualize on this continent or in fact in any theatre other than the congested areas of western Europe. It calls for the rapid maneuver of intensive fire power in favorable and decisive directions in well coördinated coöperation with the main forces. Of secondary importance as a whole but frequently of primary importance during certain phases of a campaign are the missions of covering the main forces—security and reconnaissance, seizing key positions, covering withdrawals, etc.

In one sentence, the job of cavalry is to move and fight; to move faster on the battlefield than any other ground force, and to fight for limited periods with the intensity and power of Infantry.

There is nothing new in this doctrine from that exemplified by Wilson at Nashville and Sheridan at Appomattox. It was closely approached by Allenby in Palestine and by Budeny in the Ukraine in 1920.

New developments are confined to means; means for mobility and means for fire power. The most important of these is the "iron horse." Cavalry exists because there is a need for battlefield mobility—cross-country mobility—greater than man alone is capable of. This need has always existed. It probably always will exist. The means that make this type of mobility possible are inherently and inseparably a part of cavalry. New developments in organization are simply modifications to make the new means most effective.

The infantryman in a truck is still an infantryman and must fight as such. The truck on the highway is but a modern form of strategic transportation, a few years ago represented only by the railroad. The truck on the battlefield is limited to the transportation of supporting weapons—it has no place in the front lines. But, when we apply a means of battlefield transportation to the individual soldier in such a manner that the troop units are self-contained for offensive and defensive combat, are homogeneous and flexible, then we have created cavalry. It matters not whether the means are elephants, horses or combat cars provided they are suited to the situation. When better horses are made of steel and rivets than of bone and sinew, cavalry will utilize them.

To summarize: Cavalry is a combat arm brought into existence by the need for high battlefield mobility and fire power. American cavalry doctrines have proven sound in the acid test of war. New developments, particularly the iron horse, point the way to improved means to implement the cavalry arm.

The iron horse has resulted in the term mechanized cavalry. The mechanized cavalry regiment and brigade today consist of a grouping of units each using a special form of combat vehicle designed for a specific purpose. The basic vehicle, the combat car, is designed, like the Infantry tank, primarily for assault. The various types of scout cars, personnel carriers, motor mounts, etc., are each designed to meet a requirement such as reconnaissance, security, or dismounted fire action, all in support of the combat car units.

In other words, there exists today no single type of iron horse capable of forming the means of transportation for a complete cavalry tactical unit. We believe such an iron horse to be the ideal—the objective; a horse from which our cavalryman can fight mounted or dismounted,

The Cavalry Combat Car

one that he can use equally well for reconnaissance or for pursuit, for the assault or for defense.

Because we must proceed from the known to the unknown, we started with the tank, a World War development. We improved it enormously over the early models, injecting features required for cavalry, and brought forth the combat car. The modern combat car possesses the chief characteristic required in cavalry's iron horse, namely: high mobility across country. However, it lacks such characteristics as silence and good observation, desired for reconnaissance; the ability to hold ground desired for defense; and the ability to operate against determined defense without supporting fire, thus demanding the close coöperation of other troops. In other words, no combat car unit is a self-contained tactical unit; no combat car unit alone can carry out the cavalry rôle. Therefore, since no single iron horse has yet been developed which at once combined the indispensable characteristics of the combat car and the other required characteristics, it has been necessary to specialize to the extent of utilizing other combat vehicles for supporting rôles. Obviously the close coördination required can be attained only if all vehicles have comparable cross-country mobility. So far this desirable objective has not been attained.

The accompanying photographs of present equipment indicate the new trend of development.

Only a track-laying vehicle provides satisfactory cross-country mobility. Squad of four. One caliber .50 antitank machine gun and three caliber .30 machine guns. Armored against any man-handled weapon except our own caliber .50 machine gun at close range. New developments under consideration and test include Diesel engine, longer track base for greater stability by lowering the rear idler, new turret design to increase flexibility and fire, and many others. In short, the trend is toward improvements rather than an entirely new design. Also, we are still working on a convertible development which, if found suitable, will permit long peace time marches to be made on wheels at small cost, tracks being used in the maneuver area or theatre of operations.

The scout car is the principal support vehicle and is being used for three purposes: Reconnaissance, transportation of supporting machine gun and rifle fire power, and as a mortar carrier. Various scout car designs are in use. Each year's procurement contains improvements over the previous year's model. This car accommodates a squad of 8 without radio or 6 with.

The Cavalry is satisfied that neither the scout car type nor a half-track vehicle is an entirely suitable solution to the problem of a support vehicle. Search for a solution has now resulted in renewed studies of a full-track vehicle with a body similar to this one. Our 1939 body features a seating arrangement in which personnel face front, rear and flanks, thus assuring uninterrupted observation in all directions, as well as facility for employment of weapons.

A smoke weapon to support combat cars by blinding hostile antitank guns is a highly important element of a mechanized cavalry unit.

All of the wheeled vehicles discussed here are, of course, all wheel drive and armored.

The improvements in mechanical design from year to year are truly astounding and we may well look with confidence on the evolution of our combat vehicles. The tendency today is generally to two breeds of iron horses; the one of the combat car type, primarily for assault; and the other of the scout car type, either wheeled or half-track or possibly full-track, for the transportation of supporting troops and weapons. Of these features we are certain: All combat vehicles must be armored to the maximum extent compatible with high mobility; cross-country mobility of supporting vehicles must be greatly improved; the present high speed must be maintained; and every effort must be bent toward simplicity, uniformity, and mechanical improvement.

It is quite apparent that mechanized cavalry, as it exists today, is incapable of carrying out the entire cavalry rôle. Rapid as have been the strides made, it is impossible to foresee the time when cavalry can function effectively without placing its principal reliance on the horse. Therefore, our efforts in mechanization have been paralleled by very important new developments in horse cavalry. I will take time only to name them. With reference to mobility, the mule and escort wagon have been entirely eliminated in favor of the truck. Animal-drawn transportation has disappeared. When truck transport is

The Scout Car. Used also as personnel carrier.

impossible, we resort to pack and supply by air. We are relying on the Quartermaster Corps to maintain a sufficient nucleus of trained pack troops to insure the availability of this type of supply transport in war. The truck also offers an opportunity to take part of the load off the troopers saddle in most situations. The Phillips pack saddle, undoubtedly the best in the world, had made the mobility of supporting weapons almost the equal of that of the individual trooper. The breeding of our horses has improved immensely under the guidance of the Remount Branch. The horse regiment and each higher unit includes organically a scout car unit of tremendous value for rapid general reconnaissance and to assist in command and communications. Radio, both vehicular and pack, and motorcycles are important factors in mobility. These auxiliaries—the scout car, motorcycle, truck, and radio—give the commander of the horse unit the means by which he can exploit to the maximum the potential mobility of his horses. Observation, command, communications and supply have been stepped up so that no longer is the fighting component forced to delay while control agencies, no more mobile than itself, are performing their necessary preliminary functions. With reference to fire power, the cavalry regiment has the new semiautomatic rifle; supplementing the heavy machine gun of World War days, each troop contains a platoon of light machine guns; the peace strength regiment has a platoon of antitank guns (caliber .50) and a section of 60-mm. mortars, doubled in war. All of these are new developments since the World War. It is no exaggeration to state that the horse cavalry today has more than twice the battle effectiveness of the splendid regiments that accompanied Pershing into Mexico.

The trend in development today includes the following: The development of a more suitable light machine gun; particularly one that can be carried on the trooper's saddle, thus eliminating the pack horse in the combat echelon of the rifle troop. Great strides have been made in the past year toward improving the caliber .50 machine gun until we are convinced that this is the best man-carried antitank gun in the world. There is a more extensive use of motorcycles and a general simplification and co-

Half Track-Personnel Carrier

4.2″ MORTAR AND MOUNT

Each mechanized cavalry regiment is equipped with six mortars which are used to place a concentration of smoke on that area in which are located those hostile antitank guns most apt to interfere with the success of the attack.

ordination of communications. Increased mobility, both horse and mechanized, demands more efficient means and methods of control. You have no doubt noted that the horse division includes a light tank company. The Chief of Cavalry believes a combat car squadron to be a much more appropriate unit. This will be given consideration in any reorganization of the division. Such a unit would not, of course, be self-contained but would operate in close support of the horse units.

The question of the proper proportion of horse and mechanized cavalry is highly vexing. Considering the uncertainty of our future theatres of operation, it can never be satisfactorily settled in time of peace. After giving full consideration to all factors involved, the Chief of Cavalry is of the opinion that today a cavalry corps consisting of three horse and one mechanized divisions represents a balance calculated to meet our most probable requirements. Such a corps would actually be about one-half motor and one-half horse, due to the very large number of motors in the horse division. The power of such a corps would be tremendous. When you think of its high speed reconnaissance agencies, enabling the commander to utilize promptly the mobility of his mass, and then the fluid striking power of his horse divisions supplemented at the most favorable time and direction by the crowning blows of his mechanized division, you gain a conception of tremendous mobile power at the disposal of an army commander.

Cavalry is no longer solely responsible for distant reconnaissance except in those rare instances in which air forces cannot operate. Neither is it the only arm capable of a rapid parallel pursuit or a rush to fill a gap in the line, except when truck-borne Infantry cannot operate. Combat aviation is another powerful agent of pursuit. These new developments have, however, merely served the more to emphasize cavalry's unchallenged rôle—participation in battle under circumstances which demand the highest degree of battlefield mobility. In its participation in battle, the new developments have extended cavalry's sphere of action and speed of maneuver. They enable cavalry more than ever to choose a favorable direction of attack. Mechanized cavalry, in particular, is a serious threat to hostile rear installations. Not that these in themselves will often

be the objective, but rather that the most favorable direction of attack will often be from the deep flank or rear. As a consequence, a system of all-around antimechanized defense has become necessary. Any defense of rear installations should be based on taking full advantage of natural obstacles, particularly streams and heavy woods. These are reinforced by artificial obstacles on roads. In the final analysis, the only satisfactory defense is gun fire and every Quartermaster soldier must be a fighting soldier. There is no reason why every truck should not mount an automatic weapon supplied with armor-piercing ammunition. Service troops cannot always depend on the protection of combat arms.

Because the backbone of mechanized cavalry is the combat car, shock action is usually visualized as the culmination of an attack. This is by no means an invariable rule. The tremendous fire power of its automatic weapons is the measure of its effectiveness. The mobility of the combat vehicles affords a flexibility to the fire power that creates a constant threat to flanks and rear wherever maneuver is possible. Rear installations should, therefore, be kept under the close protection of combat troops or held well to the rear and in relatively inaccessible areas; while supply convoys should operate well dispersed in daylight, if not protected, and operate to the maximum extent practicable at night.

Not only is mechanized cavalry capable of rapid distant employment by itself but it has served to greatly extend the sphere of action of horse units when the situation permits their coördinated operations. Their characteristics are complementary. While the mechanized unit provides high strategic mobility and a powerful attack on favorable terrain, the horse unit adds security particularly in thick country and at night and can develop a strong offense on any terrain, and an exceptionally strong and flexible defense.

The outstanding new development in cavalry is the coordinated use of horse and machine. This development is in its infancy. The future offers a tremendous field in which one of the chief problems of cavalry will be to establish and maintain a proper balance so that in any theatre of operations we may be assured of having the most effective combination of mobility and fire power.

SUMMARY OF CURRENT CAVALRY DEVELOPMENTS

HORSE UNITS.

Command Echelon

One additional scout car was set up for each regiment this year as a command vehicle, also a "command post" truck per regiment. Both are radio equipped. Thus the commander, staff, and message center are provided means in addition to horses to facilitate and expedite their functions. One-half ton trucks (station wagons) are also set up for the regimental adjutant and supply officer's section.

As equipment becomes available, much greater use is being made of motorcycles to supplement radio and the mounted messenger.

Reconnaissance Echelon

New model scout cars have a larger personnel capacity in order to provide more men for dismounted reconnaissance which is always necessary to supplement observation from vehicles.

Intensive research is also being conducted in the field of much smaller unarmored reconnaissance vehicles and in the use of motorcycles as reconnaissance agencies.

Combat Echelon

Intensive research is being conducted to develop a better light machine gun for the rifle troops. A more mobile and more effective antimachine gun weapon in the form of the 60-mm. mortar is just now replacing the wartime 37-mm. gun. In the war organization this mortar and the antitank gun (caliber .50) are combined in a special weapons troop. This troop and the heavy machine gun troop are under the regimental commander's control to use as general support for his more mobile and homogeneous rifle squadrons.

It should be particularly noted that all echelons of the brigade can function if completely cut loose from their motors provided pack train or air supply is set up.

Mechanized Units.

The principal tendency in vehicular equipment is toward reduction in the number of types. In other words, less specialization and more flexibility.

In employment there is a trend to greater use of mobile fire power and less reliance on shock. We may expect a rapid development of improved methods and principles of combat following the expansion of the present mechanized cavalry brigade to a division, which is now an approved project of the War Department. Details of organization are being worked out. Improvements in vehicles themselves are too numerous to attempt to list. They concern mechanical dependability, cross-country mobility, greatly improved gun mountings and facilities for operating weapons including improved stability in motion, communications—exterior and interior—flexibility of power plant, etc., etc.

General.

Great strides are being made by studies and combined exercises and maneuvers in developing the maximum effectiveness of cavalry as a whole through a proper use of horse units and mechanized units independently, but especially, when the situation permits, through the use of the two in coöperation.*

*Lecture delivered at the Quartermaster School, March, 1939.

Maneuvers and the Umpire System

By LIEUTENANT COLONEL JOHN S. WOOD, Field Artillery

Peace time maneuvers, if properly staged, provide an occasion for the assembly and movement of troops, for their upkeep under field conditions, for the collection and dissemination of military information, and for the issue, transmission, and execution of orders. These maneuvers must have a well-considered and clearly defined tactical object, but it must be understood that the tactical lessons to be learned can relate only to the possibilities listed above and not to actual combat, for the simple reason that fire is absent. No matter how many reams of umpire instructions are turned out, the effects of fire assessed as losses in maneuvers are highly imaginary. The decisions as to the outcome of any local contact are pure guesswork and no real tactical conclusions can be based on them.

The only useful tactical information obtained during maneuvers is comprised in the answers to the following questions:

Was there a definite combat mission?
Was it understood by the troops?
Were they in position and ready to begin its execution?

Actual contacts between combat units lend an air of reality to the exercise but mean nothing in so far as real combat is concerned. In army maneuvers, particularly, the small local decisions are of little concern to the army or corps commanders, and there is no need of maintaining an elaborate system of umpire communications to indicate the exact situation of small units at each moment of the action. In any case, these small decisions should be governed by general umpire instructions as to phases of action and not by some umpire's guesswork as to possibilities of fire.

With this understanding of the real purposes and possibilities of maneuvers in general, plans for umpiring and control can be relatively simple and much more practical in execution than the unwieldy system developed in our recent army maneuvers. The burdensome and largely useless complexities of this so-called Umpire System were first encountered during the First Army Maneuvers at Pine Camp, New York, in 1935. Hundreds of miles of umpire wire were laid by a signal battalion, telephones for umpire use were hung on trees and bushes at every turn, imposing umpire headquarters were set up with a special staff and giant situation maps, and a horde of about two hundred umpires, equipped with flags, cow bells, Klaxons, blank forms, and an arm load of umpire instructions, descended on the troops involved in three or four little division meeting engagements. The system was awe-inspiring and stupefying in its results. Notes made at the time by one of the umpires concerned, together with similar notes made during the Second Army Maneuvers at Fort Knox, Allegan, Michigan, in 1936 read as follows:

1935

"About one hundred and fifty senior officers were assembled at Pine Camp two weeks prior to the maneuvers for the purpose of instruction and reconnaissance. A sort of umpire's school was held in the mornings, leaving the afternoons free for reconnaissance. The school periods, in the manner of most of our Army Schools, were devoted to an elaborate elucidation of the obvious, the instructors reading from the mimeographed instructions for umpires or from the exercise problems—in my opinion a sheer waste of time. These gatherings offered a pleasant renewal of acquaintance and a reunion of old friends but little else. The military work involved could have been accomplished in a fourth of the time. In the future, Old Home Weeks of this sort should be cut down from a fortnight to a maximum of four days.

"The exercises were two-sided maneuvers covering about a week's time, together with a motorized march exercise for the First Division. Considering the limitations of ground and the state of training, the problems were well conceived in that they provided a logical meeting of opposite forces, which is all that is required in a two-sided maneuver. In their execution, however, so many arbitrary rulings were made to limit initiative that much of the purpose of the maneuvers was defeated. As announced, that purpose was, aside from the mobilization and supply problems involved, the combined tactical training of troops and commanders. I am afraid that the conduct of the exercises presented a picture of Indian fighting rather than a demonstration of modern combat. The assumption

that air forces were not present, prohibition of the use of advanced motorized reconnaissance elements, our antiquated advance guard formation, the lack of tanks, and the slowness of transmission of umpires' decisions were factors in this."

* * *

1936

"The umpire system which has been built up at the last two army maneuvers is becoming more of a burden than a help. There might be some excuse for it in a stabilized situation, but it does not conform in any way to the requirements of modern war of movement. The present scheme of installing an umpire wire net, involving hundreds of miles of wire and whole companies of operators, is too burdensome and complicated in any situation.

"The separate umpire net and operations map are artificial and meaningless. Special umpire information may be received at times through a short-wave radio net for umpires, but I believe that the army commander, as chief umpire, should control the maneuvers mainly according to the information received from his two forces through tactical agencies. This will force insistence on such information. Things must be so controlled in war, why not in peace? The unit umpires can be given the general plan for the development of the maneuvers and can force events accordingly at points of contact, the main moves being controlled by the army commander (chief umpire) as part of his command of both forces. Eliminate the area umpires and use unit umpires only—their function being strictly limited to determining the probable effect of fire and tactical dispositions at any given point. They will consult together and the senior umpire on the defensive side will make the final decision in accordance with the general plan of the army commander. Conferences at the end of each phase and the general orientation for the next phase will be directed by the army commander himself."

* * *

As happens so often in our army, the rather simple instructions contained in the small provisional Manual for Umpires of Field Maneuvers have been enlarged, obscured by a flood of mimeographs, and erected into a system requiring specialists for its installation. The sad part of the whole thing is that some of these self-elected specialists have been allowed to continue the development of the system until even small scale maneuvers can not be staged now without the whole complex and cumbersome set-up. The umpiring of small problems involving only reinforced brigades now requires the service of hundreds of umpires and whole signal companies for the communications involved. In sharp contrast, the umpire staff of the Italian maneuvers of 1938, involving two corps of two or three actual divisions each, comprised only 68 officers.

The further spread and aggrandizement of the umpire system should be resisted throughout our army by all who are concerned with the conduct of maneuvers. Let us get down to reality in this as well as in the purposes for which maneuvers are staged.

The umpiring should be as direct and unobtrusive as possible. The suggestion of the Manual that umpires be detailed from among the qualified senior officers of the troops participating in the maneuver, their commands being taken over by juniors, is particularly sound and should be the general rule. With this arrangement and with a small directing group, using short-wave radio and fast motor transportation, maneuvers can be umpired quietly and effectively by a surprisingly small number of officers. Signal units can be released for their proper uses, as demanded by the tactical situations of the exercise; and commanders can function freely, unhampered by the mass of useless and artificial restrictions so often imposed during our recent maneuvers.

MAXIM LXVI

IN WAR THE GENERAL *alone can judge of certain arrangements. It depends on him alone to conquer difficulties by his own superior talents and resolution.*—NAPOLEON'S MAXIMS OF WAR.

THE GLORY OF THE SOLDIER

☆

A DISCIPLINE OF CHARACTER IS THE ONLY DISCIPLINE THAT WILL STAND THE STRAIN OF WAR.

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"It is military discipline which constitutes the glory of the soldier and the principal force of armies." Thus wrote Carnot in 1811. But the celebrated Marshal Saxe, who had rediscovered cadenced marching—lost since the time of the Romans—and had changed his armies from straggling mobs into orderly forces, had proclaimed fifty years previously that: "All the mystery of military discipline is to be found in the legs and he who thinks otherwise is a fool." Even at this time "discipline" was used with widely different meanings.

An early drill regulations for artillery published in

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United States in 1797 was entitled: *A System of Discipline of the Artillery of the United States of America, or the Young Artilleryman's Pocket Companion.* Duane's drill regulations for the Infantry, adopted officially by the Adjutant General of the Army, March 19, 1813, was entitled: *Regulations to be Received and Observed for the Discipline of the Infantry.* In spite of its title, this was purely a manual of infantry drill. But Duane remarks in it: "The principle of discipline most prevalent is terror, cruelty and degradation. . . . The soldier is treated as the outcast of the earth, and however different he may be when he enters the ranks, the manner of his treatment too often transforms him into the miserable slave which he is presupposed to be." So Duane, too, used "discipline" in two different senses.

Wellington, in one of his dispatches, wrote: "The fact is, that if discipline means obedience to orders, as well as military instruction, we have but little of it in the army." And here again is a double meaning.

In our present Army Regulations the same confusion of meaning is retained, although an effort is made to assimilate the two senses into one. "Military discipline," it reads, "is that mental attitude and state of training

which render obedience and proper conduct instinctive under all conditions." It is to be doubted whether any amount of training will give birth to an instinct, but that can be skipped as unimportant. The discipline of today has descended from the hoary past of armies when "passive" obedience was *de rigueur*. However, a sentence farther on we find that: "it (discipline) is developed primarily by military drill," thus returning to Saxe's conception that "discipline is to be found in the legs."

"Discipline" derives from disciple. Originally it referred to the instruction imparted to disciples and hence, a particular course of instruction. From this the word evolved to mean "instruction having for its aim to form the pupil to proper conduct or action, or the training of scholars or subordinates to proper or orderly action by instructing or exercising them in the same." At this stage in its evolution the word proper was used to signify "training in the practice of arms and military evolutions" and as such was used by Duane. But soldiers were punished when they broke ranks or got out of step, hence punishment given for infractions of discipline (drill) became known as disciplinary punishments. And likewise, when an organization drilled well, it was said to be well disciplined, that is, obedience was prompt and simultaneous. So finally discipline became associated with obedience and control.

Today Webster defines discipline as "control gained by enforcing obedience or order." But a prominent soldier, in a lecture delivered a few years ago, said: "A man is physically well disciplined when he may be trusted to perform efficiently all the varied duties of his branch in moments of stress *without thought,*" presumably by command. A robot, in other words. But an automaton is useless in war today. In the Russian army, in the World War, the peasant, not long released from serfdom was disciplined in the ancient mode. And what was the result? "If the Russian army was found wanting in Eastern Asia," wrote Baron von Freytag-Loringhoven, "this was due above all to the fact that it proved incapable of adapting itself to the conditions of modern war. It afforded no opportunity for the training of the individual soldier in self-reliance in war." The Russians could perform their duties "without thought." They could not perform them without commands; their "discipline" was one cause of disaster.

Since before our Civil War, new conditions of battle had demanded a changed discipline. But military institutions and traditions have an appalling permanence. Changes are always at least a generation behind realities. The high command loses touch with the soldier, with the front line, with the basic element of armies. The second lieutenant of today, when he becomes a general, will make the changes that now are due. But by then a whole new set of conditions will demand, and may not receive, new treatment.

In no respect is this illustrated better than in the history of our own regulations on discipline. Disciplinary regulations first appeared in Army Regulations of 1821. These were copied from the French. The deadly parallel shows their kinship:

U. S. Army Regulations, 1821.	*French Regulations, 1792.*
It is the intention of the Government, that there be established in every regiment or corps, and throughout the army, as one corps, a gradual and universal subordination or authority, which, without loss of force, shall be even, mild and paternal; and which, founded in justice and firmness, shall maintain all subordinates in the strictest observance of duty. It requires that all enlisted soldiers shall be treated with particular kindness and humanity; that punishments, sometimes unavoidable, shall be strictly conformable to martial law; and that all in commission shall conduct, direct, and protect, inferiors of every rank, with the care due to men from whose patriotism, valour, and obedience, they are to expect a part of their own reputation and glory.	It is the intention of the Government, that there be established in all regiments a gradual subordination, which without losing any of its force, shall be mild and paternal, and which, founded on justice and firmness, avoiding all arbitrariness and oppression, shall maintain all subordinates in the observance of duty. It is desired that soldiers shall be treated with the greatest humanity and kindness and that they shall never be wronged; that they shall find kind guides in their superiors; that the punishments that some may merit shall conform to the law, and that the officers shall conduct, direct and protect them with the care due to the men from whose valor and obedience they are to expect a part of their glory.

This paragraph was omitted in the 1835 regulations, but in 1841 it reappears with the following paragraph added:

U. S. Army Regulations, 1841.	*French Regulations, 1792.*
In all that concerns the good of the service, the Government requires that the superior shall always find in the inferior a strict obedience; and that all orders shall be executed with alacrity and good faith; but in prescribing this kind of obedience, it is understood that orders shall not be manifestly against law or reason; and that every superior is strictly enjoined not to injure those under him by abusive or unbecoming language, or by capricious or tyrannical conduct.	In all that concerns the good of the service and public decorum, the Government desires that the superior shall always find in the inferior a passive obedience; and that all orders shall be executed literally and without delay. But in prescribing this kind of obedience, it is understood that all orders shall be conformable to law or founded on reason; and it forbids any superior of whatever grade, to allow himself any abusive language toward his subordinates.

The French regulations of 1792 were slightly rewritten from those of 1788. These had been prescribed by the King to correct abuses in the army that were leading to wholesale deterioration of discipline. They were corrective of the conditions of that time and that country. In the United States they should have had no application. We already had the fine regulations of von Steuben, used at Valley Forge, and afterwards published in 1799, under authority of Congress. Their nature can be judged from the following extract:[1]

INSTRUCTIONS FOR THE CAPTAIN

His first object should be to gain the love of his men by treating them with every possible kindness and humanity, inquiring into their complaints, and when well founded, seeing them redressed. He should know every man of his company, by name and character. He should often visit those who are sick, speak tenderly to them, see that the public provision, whether of medicine or diet, is duly administered, and procure them besides such comforts and conveniences as are in his power. The attachment that arises from this kind of attention to the sick and wounded is almost inconceivable; it will, moreover, be the means of preserving the lives of many valuable men.

It is probable that the high reputation of the French Army under Napoleon led to the slavish copying of their regulations. Drill, too, was adapted from the French. But it is curious that these prescriptions should have been retained for almost a hundred years, with minor revisions, until some additional American material was added in 1915.

In the century and a quarter that had passed since the original regulations had been written, citizen armies had replaced mercenary armies, shoulder-to-shoulder fighting had given way to independent action by the smallest units, and the soldiers themselves had more education and higher ideals than the officers of the old armies. But conceptions of discipline had changed little more than had the regulations. Officers of our war army were as kindly and democratic as the nation, but many thought there was some military magic in a domineering manner, a loud voice, and hours daily of formal drill. Little men, exercising authority for the first time, made discipline an excuse for personal tyranny. It was realized that discipline is the cement that holds armies together, but it was striven for on the model of Frederick the Great, although reforms had commenced in Germany in 1857, in France about 1875. Moreover, our Civil War had given us a model far better than any furnished by Europe.

ALONE UNDER THE EYES OF GOD

The nature of discipline is not unchangeable, although its objective remains always the same—"uniformity in cooperating for the attainment of a common goal." (Ludendorff.) The methods of attaining it must vary with armament, tactics, education and social ideals.

When men fought in ranks, each feeling the touch of his neighbor, with the eyes of the captain on him, discipline consisted in holding ranks. Drill was the means to attain such discipline. Men were drilled to perform the evolutions of battle "without thought." They were drilled for years on end to march in line and to load and fire, in the hope that these actions would still be performed with perfect regularity when under fire. The line advancing like an irresistible machine, "a walking fortress," if it did not falter, was certain to chase the enemy from his position. The ancient discipline, or drill, was perfectly suited to the tactics of the day.

Ranks were three or four deep. Muskets could be fired but once every quarter of a minute to two minutes depending upon the firearm of the time. "Troops that have fired are undone," said Marshal Saxe, "if those opposed to them have reserved fire." Men who had fired and did not have time to reload were lost when the attackers fired their volley at close quarters and closed on them with bayonets under the cover of smoke. Movement had to continue into the face of the enemy volley, hence the importance of solid ranks. So that ranks should not waver, old soldiers were placed as file closers behind, to make the rear more terrifying than the front. From the French term for file closer, *serre gens,* comes our word sergeant.

The Prussian army of Frederick the Great developed the soldier automaton to the highest degree and his successes led to universal imitation of his methods. The American Civil War first showed the futility of drill maneuvers on the battlefields, but European military men, with their usual blindness to facts that conflicted with tradition, explained this away by characterizing it as a war of armed mobs. They thought the Americans lacked the courage to advance in close order. In Europe they still attempted to discipline men in formations adapted for the slow-firing muskets of the past, not realizing that rifles with a rate of fire of six or eight rounds a minute and the new tactics they entailed had made the old discipline useless.

In the Franco-Prussian War of 1870, the great Moltke attempted to keep his armies from massing on the battlefields, to no avail. His generals closed into enormous huddles in spite of orders. Soldiers were mowed down as they advanced in mass formations. They spread out instinctively, while officers belabored them to attempt to keep them massed. Von Schlieffen wrote with bitter sarcasm: "The simple men with narrow minds could not understand that they somehow served King and Country by letting themselves be killed in the second or third line. It surely could not harm Germany if, before being stricken with a soldier's death of honor on the field, they should strike down a few of the hereditary enemies. They did not want to die in vain and rushed forward to form a single line of skirmishers."

The initiative of the subordinate leaders multiplied the strength of the army. To the intelligent, hardy, and even sometimes somewhat reckless initiative of the German subordinate leaders the French had nothing to oppose, in the grand as in the minor operations, but a deliberate inactivity, always waiting for the impulse from above. No well organized army can afford to dispense with the

[1] Ganoe, *History of the United States Army.*

initiative of subordinate leaders, for it is the determining factor in war. So wrote Colonel G. F. R. Henderson of the Franco-Prussian War.

In the World War the greater number of French officers had gone ahead of existing regulations in treatment of their men. Their comprehension of the character and morale of their soldiers was the result of the citizen army and had prepared them for passing from the discipline of peace to that of war. Yet there were some failures that required understanding and patience to overcome.

Ludendorff realized early the need of independent action of small units and German training by 1917 contemplated reinstruction to encourage the initiative of noncommissioned officers. The great offensives of the spring of 1918 were based on infiltration methods by small units. German officers, however, were inclined to continue their traditional attitude toward the men. This resulted, in the latter half of 1918, in extensive agitation against officers, both in the army and at home. To this, partially at least, can be attributed the breakdown in morale when the military decision commenced to go against them. The officers were not close enough to the men to inspire them with their own tenacity.

The acute military students of Germany did not fail to draw true conclusions. In the German army today, all officer candidates serve a year and one half in the ranks, one year as a private and six months or more as a noncommissioned officer. Discipline is as meticulous as ever, but to it is joined a very real comradeship. The private who clicks his heels and snaps into an immobile salute to his captain, may be his host at dinner that evening. In no army in the world today does there exist a finer relationship between officer and man combined with outstanding discipline. The spirit of German regulations, which prescribes "Real comradeship is just as important between officers and men as between the men themselves" is followed.

The Americans had not learned when the war ended; their excessive and needless casualties resulted as much from undue massing on the battlefield as from ignorance of staff and commanders. We can take the evidence of General Charteris, a friendly Briton, who wrote: "A distinguished American staff officer who visited the battleground immediately after the fight brought back word that on this front the American dead lay in long orderly lines, a tribute to the high spirit and splendid courage with which they advanced to certain death." A sacrifice, rather than a tribute, to the god of drill on the battlefield. Anyone with an ear to the ground could discover the undercurrent of dissatisfaction during the last months of the AEF. What its volume and result might have been by spring, no one knows. The War ended before we, too, had to learn the lesson the French and Germans digested.

The old discipline of drill has been useless in battle for a hundred years. Overemphasis on it today is only another evidence of the force of tradition and custom in armies. Tactics requires independent action of the most modest units. Drill, which aims at suppression of individuality, unfits men for independent action. Ludendorff realized this and wrote after the war: "Young men, strong in their free development and rooted in the nation and state, will in most cases be more suitable for the tasks of military service than youths formerly drilled in mass and deprived of personality. These young men are more fitted to perform the necessary deeds independently than are members of drilled youth. If here and there they have more difficulty in mastering technical proficiency, it will not matter. Their spiritual strength will enable them in good time to achieve even better results."

The squad executes its mission on the battlefield alone under the eyes of God. Decentralization is the characteristic of battle today. It demands a corresponding discipline. Independent action of men and small detachments, which is the basis of tactical collaboration, is a technical necessity and can only be met by a form of intellectual discipline. It requires a force of character that no longer is the property only of the higher leaders. It must be cultivated in the modest grades. Unless morally controlled, execution escapes control. A discipline of honor, responsibility, duty, devotion, is the only discipline that meets tactical needs and will stand the strain of war.

Citizen or Serf?

At the same time that dispersion on the battlefield was making a new discipline mandatory to establish control, social changes in democratic countries were producing citizens who could be made to conform to the old discipline with difficulty. Tactics demanded a new and more difficult discipline and so did democracy. Military institutions displayed their well-proved vitality by resisting both tendencies. Today, if independence and education had not supplied young men with natural initiative and responsibility, the army would be forced to develop these qualities, just as they always have developed courage, pride, obedience and self-sacrifice. The tendency remains even today to destroy the foremost virtues of our soldiers by trying to mold them to a pattern of war and society that long since has disappeared.

No longer do noble officers command their peasant followers by divine right. Field Marshal Count Schwerin once declared that Fear and Love were the two instruments by which the soldier must be governed, and then added that unfortunately Fear had to perform the lion's share. Frederick the Great's soldiers were the lowest of his citizens. Large numbers (tall men, especially) had been kidnapped by his recruiting officers. To keep them from deserting, he prescribed in his instructions to his generals, that camps should not be made near woods, since woods made escape easy; that night marches should not be undertaken; on the march through woods, that mounted guards should patrol the flanks of the columns, and so on. Frederick's army was a jail on the march.

"All that can be done with a soldier," he wrote in his Military Testament, "is to give him esprit de corps, i.e. a higher opinion of his own regiment than of all the other troops in the country, and since his officers some-

times have to lead him into the greatest dangers (and he cannot be influenced by a sense of honor) he must be more afraid of his officers than of the dangers to which he is exposed." That was just the argument of Xerxes, Herodotus tells us, but the democracy on the march that was Greece in war, defeated the driven hordes of Persia.

Not many years after the great Frederick's death, the revolutionary mobs of France, fighting under the banner of "Liberty, Equality, Fraternity" defeated the drilled Austrian and German armies. Incredible, but true. True discipline had been developed in the place of formal discipline and patriotism took the place of the cudgel. The lesson was not lost on Germany. While the rest of the world continued to imitate Frederick the Great and Prussian discipline, Scharnhorst first, and then Prince William of Prussia in the 1840's and fifties, carried through reforms that encouraged a high degree of initiative in the officer ranks, at least. But in England the Duke of Wellington was deeply mortified when British soldiers were permitted to have reading rooms and educational instruction. "Such centers," he said, "will eventually only prove themselves to be foci of mutinies."

Discipline has not discarded all the remnants of these traditions. Not infrequently the citizen soldier of today is as well educated as his officers. He has an equal endowment of patriotism, an equal understanding of the cause for which he serves, an equal devotion to duty and country. He may be inferior to the officer only in military knowledge and he seeks to remedy this with an eagerness that needs no driving. And perhaps he has been accustomed to greater independence of thought and action than is permitted to professional army officers.

The citizen of today is not suited to the ancient discipline, and fortunately so, for the ancient discipline is not suited to war. He will resent it and hate it. He will accept it from patriotism, as the worst of the horrors of war. When he realizes its futility, his dislike will turn against the men who enforce it—his officers. Too frequently, he is not analytical enough to distinguish between the system and the helpless products of it.

The young American is disciplined, although not drilled. He has gone to school and arrived there promptly in time for classes five days a week, nine months a year, for eight, twelve, or sixteen years. He has been given study assignments to do at home and does them without a preceptor looking over his shoulder. He has learned leadership and coöperation in group games. He has driven a motor and has learned the discipline of traffic. He comes to the army with the elements of just the kind of discipline the army needs, that is, submission to necessary authority and independent action within its limits. He

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obeys willingly and intelligently when he knows the need for obedience.

Obedience is the foundation of discipline, but obedience can no longer be blind. At one time it was literal and formal. It tends to be so in peace. In war, with superiors invisible, with conditions often different from those assumed when orders were issued, the combatant is the sole judge of how best to obey. His formidable duties will only be performed if his own initiative takes control. The back-seat driver cannot be heard in the roar of battle.

General Cordonnier relates in his book, *Obedience in Armies,* an example of literal (or passive, or instinctive) obedience. The advanced elements of the French 3d Division occupied a salient along the south bank of the Aisne in September, 1914. The retreat was still on. The roads were filled with convoys of fleeing peasants, women and children. A German battery in plain sight was firing on the helpless mass. It then shifted its fire and adjusted on the advanced elements of the 3d Division. A battalion of French 75's, occupying the heights to the northeast, continued to remain in surveillance to the north without replying to the German fire, although the German battery was within range. Its commander turned his field glasses on the German battery and limited himself to that. It was not in the sector assigned to him, so he did not take it under fire; he allowed it to massacre his comrades of the 51st Infantry. He was obeying orders without argument or reclamation. Such obedience may do for an army in peace but it is worthless in war. Obedience in war is a means of collaboration and is not an end in itself.

That evening, General Cordonnier was ordered by his corps commander, General Gerard, to withdraw his artillery along certain routes at a specified time and to assemble it at prescribed points. Mist drifted over the field in the dusk. The advanced elements along the Aisne were weak. There was danger of a German advance in the mist and growing darkness and this might cut off the withdrawal of the artillery if it were not pulled out immediately. But the orders had prescribed a later hour for the withdrawal. General Cordonnier ordered all eighty-four guns out at once by all available roads. As he had feared, one of the bridges over the Aisne had not been destroyed completely when it was blown up and the Germans came across on his flank and rear in force. Had he complied with his orders much of his artillery would have been captured.

"Cordonnier," barked General Gerard, the next morning, "when I give orders, I expect them to be executed. I fixed an itinerary, the assembly points for guns, you did something else; I do not permit that." Cordonnier had not obeyed orders literally and in consequence had saved the division artillery and part of the corps artillery from capture. General Gerard, later in the day, recognized the virtue of General Cordonnier's disobedience and praised him for it.

An incident a week later showed that the corps commander was gaining a new conception of obedience. The retreat had been halted. Joffre was starting his counter-offensive. The 3d Division was holding the enemy a half-day's march north of the Marne. Bridgeheads had been prepared north of the Marne so that an offensive return could be launched from there. But Joffre's orders were to hold in place at all costs.

A general staff officer came with a message from the corps commander ordering the 3d Division to withdraw to the Marne. The order explained the dangerous situation of both flanks of the division. Cordonnier thought he could hold and continue to hold. The longer he thought about withdrawing, the madder he got. He started to complain violently to the staff officer, damned General Gerard and all the wooden heads at corps command post. Captain Schweisgut, the staff officer, looked pleased and said: "Give me back the order and act as if you never had received it." General Cordonnier expressed his astonishment. General Gerard had instructed Captain Schweisgut: "I am afraid that Cordonnier will insist on resisting beyond the capacity of his troops. Give him this order which will show him the situation as it is. If after the authorization for withdrawal has been given, after he has been informed of the dangers he runs, he kicks about it, take the order back and bring it to me." General Cordonnier kicked, held, and the next day started in pursuit of the retreating Germans.

This astounding evolution in the corps commander's ideas of obedience took place in only a week of war. But how far he had traveled from the conceptions of obedience and orders in peace! It involved complete recognition of the right of the man on the ground to obey according to the situation with which he was confronted.

As armies have become larger and fronts solid, a curious reversal in the echelons in which independence must be granted has taken place. Formerly, the generals properly were allowed a great degree of independence of action. Now the actions of divisions, corps and armies take place slowly, over days and weeks; the radio, telephone and motor transportation between higher headquarters keeps the superior staffs informed of the larger situation. Orders to large units are based on accurate and timely information. But in squads, platoons and companies, although their action may take place within a mile or two from their superiors, information and orders cannot be sent or received; they have to act independently. The corporal, the sergeant and the lieutenant have to be given greater freedom of action in their spheres than the general in his.

Initiative or Disobedience?

Initiative, like liberty, has limitations. It is essential that initiative does not become disobedience. Orders do not execute themselves nor debate their execution. True initiative consists in the adaptation of the order received to the circumstances of the moment at which it must be executed. In the German army modification of an order, that no longer fits the conditions that existed when it was issued, is a duty and is not considered as disobedience. Is that lack of discipline?

A division was ordered to attack at 4:00 A.M. In its assault the previous day, it had gone far beyond its objec-

tive and had lost its artillery. The artillery could not get up and support the attack until 10:00 A.M. The chief of staff, on the ground, countermanded the order and directed the attack to take place at 10:00 A.M. when it could be supported. He knew that an attack without artillery support could have but one result: no ground gained, a bloody check, and futile dead and wounded. But the chief of staff's order was countermanded by the division commander. He feared to explain his difficulties to the corps commander; he had been trained that orders should be obeyed; "theirs but to do and die." The attack was launched at 4:00 A.M., somewhat disorganized by the change in orders and without artillery support. Not only was it stopped with the loss of several thousand men, but the enemy counterattacked and regained all the ground they had lost the previous day. The division had to be withdrawn and its replacement lost five thousand men retaking the ground lost.

That was discipline. In battle, orders often are given that are unexecutable when received. Should they be obeyed? Should men be killed uselessly simply to support a military tradition of obedience? There is a way out without disobedience and lack of discipline. The French army had to discover it.

At Joffre's initial consultation with his army commanders, called August 3, 1914, for discussion of the

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French plan of attack, the high commanders anxiously waited for decisive words which were to be pronounced. They heard only banalities. Finally General Dubail asked a question: What should be done in case of such or such an eventuality? Joffre replied: "This plan is your plan, it is not mine." Meaning—you have your orders, execute them. On a later occasion, General Franchet d'Esperey, who knew conditions on the ground, objected to certain orders and feared that they could not be obeyed. Joffre replied that it was d'Esperey's business to issue the orders and the soldiers' to obey them.

Before the Nivelle offensive in April, 1917, the entire army, except the General himself, knew there was little chance of success. They knew of the insufficiency of artillery support and that the plan to form reserves from assaulting units on the field of battle, for exploitation, was only a dream. Nivelle would listen to no objection to his plans, either from his staff or from his army commanders. His great offensive was a bloody and futile disaster and led to mutiny in the French army. This was discipline. Nivelle issued orders and they were obeyed. Result: mutiny—indiscipline complete.

Pétain's first order when he succeeded Nivelle in command of the French armies in May, 1917, was the following:

NOTE RELATIVE TO THE ATTITUDE OF COMMANDERS

Our officers for three years have given the most heroic proofs of courage and nevertheless they hesitate to inform their superiors of the difficulties that confront them from fear of being taxed as of timorous spirit. It is the duty of commanders, by their attitude, to resist this tendency. The superior should give his subordinate a friendly welcome and show his desire to aid him to triumph over the difficulties which stop him, ask for useful information, and even provoke it. The kindly attitude of the commander conforms to the most noble traditions of the French Army. It does not exclude firmness. The professional confidant of the officer is his superior. The superior should justify this confidence which reposes on reciprocal esteem and common devotion to the country.

Here was precisely the opposite of the previous attitude: "You have your orders, obey them." Petain's attitude is practicable with officers. To what extent can it be carried into the ranks? Should every soldier be encouraged to come to his officer and complain of the difficulties he finds in carrying out the order he has received? Obviously not. The solution lies in provoking the reaction of the soldier.

Napoleon kept perfect account of the state of mind of his men, in spite of appearances to the contrary. After the half-victory and fearful butchery of Eylau, when he passed among his troops, in the middle of cries: "Live the Emperor," many soldiers were heard to call: "Long live peace," or "Give us bread and peace." At such times Napoleon rebuked his men, but in actuality he took account of their humor. At other times he walked among their bivouacs at night, sat down with a group and shared their bread and cheese, and learned their state of mind. He could not admit that he was influenced by such considerations, for that would have injured his authority. But he sought these evidences and took them into account, correcting both the morale and getting at the source.

General Debeney relates that in March, 1918, he had received the mission to form the First Army and close the gap the German offensive had driven between the French and British. There were days of desperate fighting. During the night of March 27th, he visited the 12th Division in a village they had just retaken. With the regimental commander he circulated among the groups of men and stopped by a strong light used to care for the wounded, so as to show himself clearly. He was quickly surrounded by a considerable circle. He explained the situation, told the men they would have to hold for two days before reinforcements would arrive. As he spoke he examined their faces and found again the determination of Verdun. He was sure they would hold.

During the second battle of Guise, at the end of October, 1918, the preparation for the attack on the Sambre canal did not go well. The troops complained of incessant bombardment with gas shell. The Army Commander knew that the action of German artillery had diminished greatly, so he went to the front lines and quickly saw that the troops had no confidence in the

success of the attack because the preparatory measures seemed incomplete to them. They were right. A phrase of his instructions had been ambiguous and had been incorrectly interpreted. He rectified the fault and "the enthusiasm of these brave men was restored immediately."

The soldier becomes a first-rate tactician in war. He knows when artillery support is lacking, when he should have aerial support, how much tanks help. The same man,

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who without complaint will stay with his machine gun until he is killed to protect the withdrawal of the main force, knowing it to be necessary, will be mutinous if required to risk his life in a poorly planned and unsupported operation. As Liddell Hart remarked so justly: "The mutinies of 1917 were to show that the incapacity of generals and their waste of human lives are the most potent factors in disturbing the spirit of discipline."

August 8, 1918, was declared the "black day of the history of the German Army in this war" by Ludendorff, because of the breakdown of discipline. On that day "whole bodies of our men surrendered to single troopers or isolated squadrons. I became convinced that we were now without that safe foundation for the plans of General Headquarters, on which I had hitherto been able to build." Unfulfilled promises had destroyed the confidence of the German Army. At that time their inferiority of numbers was not greater than allied inferiority had been in March and May. With discipline, they could have continued the war for a long period. Without it, the German armies melted twice as fast as could be accounted for by casualties.

Commissar or Commander?

The commissar system of the Russian Army is an original disciplinary development of recent times. Initially, commissars were installed as co-commanders in the Red Army during the Revolution because the proletariat had no trained military commanders and were forced to depend upon Czarist officers whose loyalty they distrusted. The lack of education of the Russian soldier made political and educational training necessary to give him enthusiasm to fight. This duty devolved upon the commissar. Hence he became an educational and morale officer, independent of the commander, as well as a reporter on the loyalty of the military chief.

The disadvantage of the commissar system lies in divided authority. Discipline and moral leadership, the most important function of command, was taken from the commander's control. The commissar has a separate chain of command, independent of the military hierarchy. The commander must please the commissar as well as his own chief. Divided authority makes coöperation difficult and divided loyalty on the part of the men leads to disunion.

The system was adopted by the Spanish Government army in the Civil War. It must be given credit for maintenance of a morale that survived two and one half years of unparalleled hardship and almost uninterrupted defeat. But it must be charged with the destruction of initiative and authority of Government commanders and with the resulting military incompetence. From the western point of view, it would be more suitable to make the commissar the commander and supply him with a competent military staff.

"At other times he (Napoleon) walked among their bivouacs at night, sat down with a group and shared their bread and cheese, and learned their state of mind."

From the two armies supplied with commissars can be learned the tremendous importance of morale and patriotic training. In western armies it is largely neglected. In the German and Italian armies it is given in the premilitary training. Soldiers, in the democracies, are assumed to come to the army with patriotism and enthusiasm for the cause. Their initial endowment is insufficient. They need further education. To support the discipline of war, they must be given an overmastering faith in their cause that will survive all the hardships and disintegrating influences of modern battle and hostile propaganda. A minor staff officer, called the "morale officer," who supervises athletics and the like, is merely an avoidance of the problem. The maintenance of the discipline of morale is as important as the planning of military operations. It requires the primary attention of the commander. Patriotic and morale training must be organized with as much attention as is devoted to food and munitions. It is the basis of the will to fight.

The Parade of the Wooden Soldiers

"Disciplinary drill" seems to have been left far behind. But it is difficult to find an experienced officer who does not believe in the disciplinary value of drill. Originally devised for battle, it has been retained in armies for elementary disciplinary training. It appears to be the best means yet devised of developing group unity and the expectancy of obedience in the early stages of training. In armies where drill has been made an end in itself, it has defeated its purpose. Too much of it develops either resentment or boredom, or an automatism that destroys initiative.

In the German Army there is little drill after the recruit stage of training. Drill is exceedingly simple. The parade step—the mis-called goose step—of the German Army is a true disciplinary drill. Its patent inappropriateness to battle has prevented giving disciplinary drill in Germany the over-emphasis that has characterized training in the British and American armies. In Germany, the nation that Americans like to think of as regimented and drilled out of all semblance of initiative, the "mechanical heads," as Scharnhorst called them, did not triumph. They did in our democratic army.

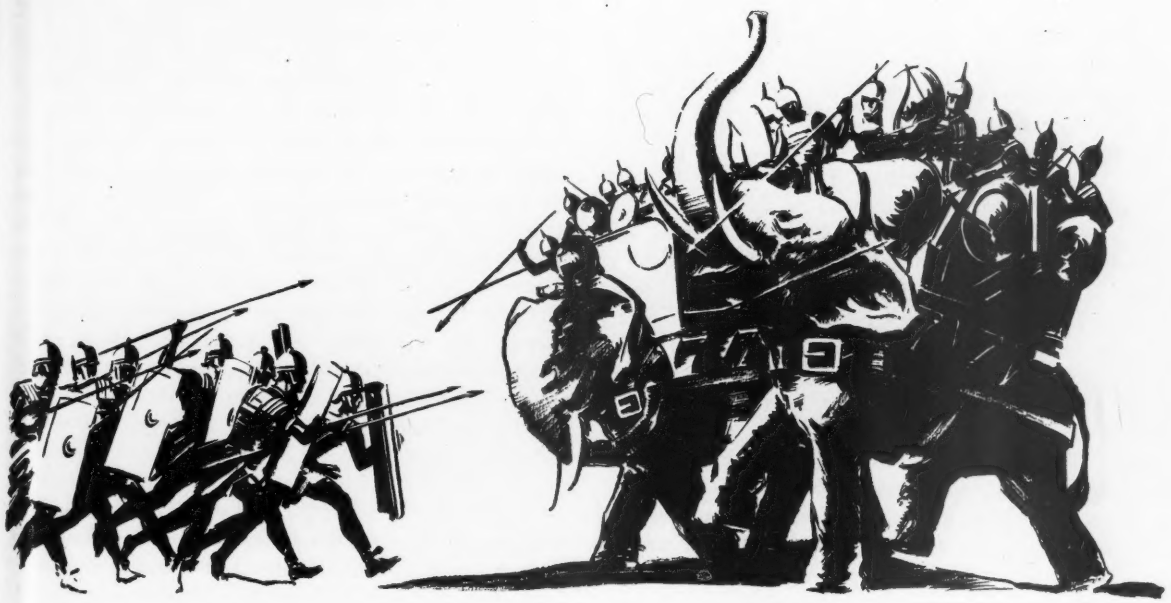
Perhaps a new day has arrived with the recent adoption of simplified drill. Many will miss the clean-cut artificial evolutions of drill. The stubbornness of the "mechanical heads" may yet destroy a reform one hundred years overdue.

* * *

Literal obedience, like formal drill, has no application to discipline in war. It is necessary to cultivate the habit of reasoning about orders received. The tradition that an order shall not be discussed or argued until after it has been obeyed is as absurd in war as battalion parade on the battlefield.

The foundations of discipline are the sentiment of duty that must be fulfilled, cost what it may; the will to sacrifice; the possibility of fulfilling the duty required; and a competent hierarchy of leadership.

"The only lasting discipline is that which comes from free and voluntary acceptance of the obligations of those who have part in collective action." (General McGlachlin.) Discipline is the means of bringing the moral forces into play; to the strength of each is added the force of all. "After inspiration, that which is most beautiful is devotion; after the poet, comes the soldier." It is of voluntary submission, abnegation and sacrifice that discipline is composed and it is these that make it truly the glory of the soldier and the principal force of armies.



CANNAE: The Perfect Battle

By Chaplain Edward Barkley Wilcox

Officers Reserve Corps

When a study of the battle of Cannae is contemplated two questions address themselves to the student, both of which deal with the value of such a project. The first is this: In view of the present-day development of the art of warfare, with airplanes, long-range guns and chemical defense, of what conceivable value can the study of so ancient a battle be? The second question runs thus: If this be the "perfect battle," then surely has not enough been written about it by those who are experts in the field? Such doubts constitute fair questions and must be reasonably answered.

As to the first, Napoleon supplies the answer in his so-called 77th Maxim: "Gustavus Adolphus, Turenne, and Frederick, as well as Alexander, Hannibal, and Caesar, have all followed the same principles." And in addition to this it is very much to the point to remember that the Schlieffen Plan drew its inspiration from Cannae. To the young officer of today Napoleon speaks again, saying in his 78th Maxim, "Read and reread the campaigns of Alexander, Hannibal, Caesar, Gustavus, Turenne, Eugene, and Frederick; model yourself upon them; this is the only way to become a great captain and to discover the secrets of the art of war."

Regarding the second question, it may be a matter of surprise to many to learn that comparatively little has been written on this subject. In English the only complete and thorough work dealing with this battle and its background is Colonel T. A. Dodge's *Hannibal,* a book of the first rank which reveals great learning and a detailed knowledge; everyone who makes so bold as to write upon Hannibal and Cannae must acknowledge their debt to this author. Indifferent articles have appeared at rare intervals but these are incomplete and leave much to be desired. German students—military and otherwise—stand first in productivity in this field. A consultation of the card catalogue in both the Library of Congress and the library of the War College will be sufficient to convince one of the scarcity of writings in this specific field.

Another reason is adduced: a certain black and white atmosphere attaches to the study of former famous actions. Black lines on white paper indicate the course of certain streams, the location of hills and woods, and objects artificial as well as natural. The contending forces are represented by little squares and oblongs, dotted lines and arrows indicating the direction of their movements. To all of this there attaches the dry and lifeless bookishness of half-forgotten annals of the past. One desires a more colorful picture of this epic event and wants to know how the Roman maniples maneuvered, how the Numidians rode, what the Africans looked like, and how the Gauls used their longswords. The purpose of this article is to revive in our imagination the full, colorful, throbbing life of a day that once held the stage of human history with as much living reality as does our today. The dim outlines of the past are here filled in with a minuteness of description which aims to identify the struggles of long ago with their counterpart of the twentieth century, so that the American doughboy will recognize his own martial brother in the legionnaire of ancient Rome or the hoplite of old Macedonia.

SOURCES

The main sources of information for this period are derived chiefly from Polybius and Livy. Polybius, a Greek historian, who was one of the thousand hostages of the Achaean League, lived in Italy from 168 B.C. until his death, at eighty-two years of age, in 120 B.C. Livy, a Roman historian, flourished in the Augustan era and stood high in the favor of the Emperor. Both of these men are authoritative and rise head and shoulders above the generality of historians of their day. Polybius is the earlier and the closer to the events recorded; he is dependable, logical and little given to belief in miracles and superstition which marred and distorted the ordinary pages of ancient historical record. Livy, the Roman, wrote in a style highly approved by the literary critics and was at

Map 1: The Mediterranean World

the same time a good, creditable historian; it is not unnatural, however, that much of what he writes is tinctured by Roman prejudice. All subsequent records of the Second Punic War are based, for the greater part, upon these two; whatever is additional is of comparatively little worth and need not be mentioned here. It must be remembered that with the destruction of Carthage in 146 B.C. all historical records of that state were lost and our knowledge comes to us, almost in its entirety, through Roman sources.

THE BACKGROUND

The conclusion of the First Punic War in 241 B.C. saw Carthage defeated and humiliated, and crippled by the loss of her control of the western Mediterranean. She was primarily a commercial and an agricultural city whose citizens had no time to devote personally to the defense of their country, for out of an army of 70,000 only 2,500 were Carthaginians. Her empire, was, therefore, extended by armies supported by Carthaginian gold which bought and paid for her defense without shedding the blood of her citizens. The armies which maintained the imperium of Carthage were drawn chiefly from those nations with which she had commerce. Her realm (see Map No. 1) extended from Cyrenaica on the east to the Pillars of Hercules on the west, and from the sands of the Sahara on the south to the interior of Spain on the north.

The opening of the Second Punic War in 218 B.C. saw Rome in control of the Italian Peninsula (see Map No. 2) from the Sea of Tarentum to the sources of the Po. Roman genius for organization had effectually extended her Empire over the fears, as well as the land, of the nations of Italy, a fact which Hannibal found to be sadly true. The one exception to this rule was that of the nations of Cisalpine Gaul, who, fickle and inconstant by nature, ever awaited some plausible excuse for raising the standard of revolt against Rome. Whereas the Empire of Carthage was built upon commerce, that of Rome was founded upon the wisdom of the Roman Senate and the power of the Roman legions, the latter, indeed, being a psychological advantage of immeasurable proportions.

When, shortly after the close of the First Punic War, Hamilcar Barca was leaving Carthage for Spain, he was offering up those sacrifices calculated to propitiate the gods. His nine-year-old son, Hannibal, approached his father and requested to be taken to Spain with him; without a word his father took him and, placing his hand upon the sacrificial altar, bade him swear undying hatred toward Rome. Hereafter Hannibal's whole life was devoted to the one idea of studying and laboring to destroy Rome. When, some years later, after the death of his father and the assassination of his uncle, Hasdrubal, he took command of the army in Spain, his entire time was taken up enquiring into the state and condition of Italy; the attitude of its peoples towards Rome; the fertility of its soil; the chances of an invading army living off the land; the possibilities of Gallic aid, and all elements entering into a complete knowledge of his enemy and his enemy's land. Thus, with this ambition and labor, did Hannibal comprise within himself a majority of the functions of the G-2 of ancient Carthage.

THE CARTHAGINIAN ARMY

Organization: The psychology and the composition of the army of Carthage differed fundamentally from those of Rome. The army with which Hannibal opposed the Romans at Cannae was composed of men drawn from a great number of nations, none of whom were fighting with the motive of patriotism but all of whom were stimulated by the love of Punic gold. Apart from the Sacred Band, composed of citizens of Carthage, the army's mainstay was the African or Liby-Phenician troops, who served both as heavy infantry and cavalry; they were a mixture of native and colonial stock. Next, in order of strength and dependability, were the veteran troops of Spain and Gaul, they, too, serving in the same capacities as their African colleagues. Then comes that body, famous by reason of its incessant activity, as well as by their peculiar method of fighting, the Numidian cavalry. The rest of the army was composed of troops drawn from all the tribes lying between Egypt and the Outer Ocean. Ordinarily, the discipline of the Punic army left much to be desired; a great deal of this was due to the racial variety of the troops and to their individual training; nor did they have the common element and advantage of a unifying Latin speech. The remarkably good discipline of these

Map 2: Italy

troops under Hannibal witnesses to the presence of great personality. The Carthaginian troops were practically all veterans and this enormous advantage speaks for itself to the military mind. As we now examine the tactical aspects of this army let us remember that, due to the destruction of Carthaginian records, our knowledge is insufficient and therefore unsatisfactory. It is not known with certainty what tactical system was used by the Carthaginians but all writers on the subject agree that it must have been some form of the phalanx, most likely a descendant of the Macedonian phalanx of Philip and Alexander. A reasonable inference in this direction may be drawn from the fact that one of the chief leaders in the First Punic War, and the one who defeated Regulus before Carthage, was Xanthippus the Spartan. His training, discipline, and leadership of the Punic army must have had a lasting effect.

The smallest tactical unit of the phalanx was the tetrarchia which was composed of sixty-four men arranged in four files and thus being sixteen deep. Four tetrarchia formed a syntagma which was made up of 256 men arranged in sixteen files, sixteen men deep. Either of these arrangements could be maneuvered as a tactical unit. Sixteen of these syntagmas formed the small phalanx and was composed of 4,096 men. These tactical formations apply strictly to the heavy-armed troops or those known as hoplites. There developed in time a less heavily armed type of soldier, called peltasts, who took position in front of the hoplites before the main shock of battle came; these numbered 2,048 and since the length of their front was the same as that of the hoplites their depth must have been eight men. There may have been, also, a body of the lightest armed troops called psiloi, whose number would have been one-quarter that of the hoplites or 1,024. This class was most likely used for light skirmishing.

The cavalry unit was an ile, composed of sixty-four men arranged in sixteen files and thus being four deep. The total cavalry strength of the small phalanx was 1,024, thus making sixteen squadrons. Eight squadrons were placed on the left wing of the phalanx and eight on the right.

Such are the chief features of the Macedonian phalanx. How much its organization had changed within the century that followed the death of Alexander is not known, but it must have been comparatively little except for the shortening of the sarissa. The sarissa was a lance twenty-one feet in length, so balanced in its structure that the hoplite grasped it six feet from the butt end; this weapon had a marked effect upon the tactical organization of the phalanx because the solidity, and consequently the immobility, of the phalangial formation made effectual the use of this peculiar lance. The purpose of the phalanx was to present an unbreakable front which with one shock would break to pieces the enemy's formation or which, in defensive attitude, was impregnable; its superiority prevailed for almost two centuries. After an enemy formation was broken up, the cavalry would then come into play thus offsetting the immobility of the phalanx. The phalanx was effective only on level ground which was well cleared of all obstacles and this constituted a serious drawback. However, the magnificent discipline of the phalanx under Philip and Alexander overcame this difficulty, but it must be conceded that they had a mastery in its use equalled by none. However, apart from the unusual leadership of these two men, it must be kept in mind that the psychology of the phalanx was *defensive*.

Special attention must be called to the cavalry without which the phalanx would be in an impossible situation. In the Macedonian phalanx described above it will be noted that the ratio of foot to horse is seven to one; Alexander, who had the very fine Persian cavalry to deal with, usually maintained a ratio of four to one. Hannibal perceived the real importance of cavalry, which the Romans never did, and maintained this arm at a high ratio. When he completed, with a much reduced army, the crossing of the Alps his ratio of foot to horse was three to one. At Cannae it was four to one. It may not be inappropriately mentioned here that this high ratio was one of the reasons for the high level of the combat intelligence system in the Punic army.

Arms: In the absence of better evidence it is assumed that the arms of the Carthaginian troops were derived from Greek models. In order to see these arms in the natural context of their use, they will here be described by examining the equipment of the various classes of troops.

The Sacred Band, which was the corps d'elite of the Punic army, constituted a part of the heavy infantry. They are pictured as wearing a steel cuirass, a Boeotian helmet and greaves on both legs. Their shields were large and circular, somewhat more than three feet in diameter. Their arms were probably a short sword and a lance or pike. When not in combat they wore a red tunic and always had on sandals. The cavalry of Carthage was also drawn from the wealthy classes of that city and each member was distinguished by wearing a golden ring for each campaign in which he had served. These were clad in mail and wore helmet and greaves.

The rest of the heavy infantry was armed in the same manner as the Sacred Band, but their arms were not so rich in material or design. The Liby-Phenician or African troops fought mainly as heavy foot and horse, but after the battle of Lake Trasimene, Hannibal equipped them with the arms taken from the fallen Romans.

What we know of the heavy Spanish infantry and horse pictures them as wearing white woolen tunics, edged with red, and armed with the famous Spanish short sword (gladius ibericus) and a buckler made of wood and covered with bull's hide. Invariably, the cavalry carried two men on a horse, one dismounting to fight, the other continuing on horseback. This essential mixing of foot and horse seems to have proven a good device for Caesar's right wing at Pharsalia.

The Gauls appear to have presented a most colorful picture. Their hair was dyed red and worn either in a

knot on top of their heads or in a flowing manner over the shoulders. The ordinary soldier wore a full beard, while his officers affected only a mustache. Their helmets, of comparatively recent adoption, were crested with horns or feathers. Their vanity was exhibited in the numerous bracelets, torques or necklaces, and rings which they wore. In battle they fought stripped to the waist. Their characteristic weapon was the Gallic longsword which they manipulated by making long, sweeping blows, cutting wide swaths in the enemy's ranks. Until Hannibal had their swords made in Carthaginian factories, the metal was very poor and quickly dulled. Also, they carried lances with fire-hardened points, pikes with curved blades, and clubs and slings. Whatever the Gauls lacked in arms they made up for in their reckless courage and bravery.

The Liby-Phenicians shaved their heads and left only a small fringe of a beard, and adorned their natural appearance with liberal tattooing. They wore red hoods and white woolen skirts, belted at the waist and hanging to the knees. A cloak or a goatskin covered their shoulders and their legs were bare. Their weapons included a long lance, bows and arrows, sometimes a long sword, and bucklers covered with elephant's or bull's hide; also, flails and harpoons were peculiar to the arms of this corps. On their lances they used a device which the Romans called the "amentum" and the Greeks termed the "ankule." This was a twisted thong fixed near the balance or center of gravity of the missile weapon through which the soldier put one or two fingers as he poised the javelin for casting. The object of this cord was to impart more driving power and momentum to the weapon after it had actually left the palm of the hand; such a device is said to have doubled the distance that a lance could be thrown.

The light footman carried a small round shield of wood covered with hide and had as his weapons lances and javelins.

The term Numidian included a score of tribes scattered along that north African strip of territory that lay between the desert and the Mediterranean. The troops of these bodies had as their only defense a leopard or a tiger skin which they draped over their left arm to serve as a shield. Apart from their mounts they were worthless, but on them they had a definite value. They were armed with a lance, with several darts and with a sword. They were admirably adapted to partisan warfare and possessed great powers of endurance. They would charge the enemy with great elan, emitting terrible cries and yells, and on meeting resistance would wheel around, not to retreat but to attack again, and by this method they would attempt not only to inflict what injury they could but would endeavor to unsettle the enemy's morale. These tactics enabled Hannibal to use the Numidians to perfection in a holding attack upon the Roman left wing at Cannae.

Important among the soldiers of antiquity were the slingers. The Hebrews, especially the left-handed slingers of the tribe of Benjamin, enjoyed great reputation in this particular art. Slingers were considered as being much more effective than archers and were often used as a covering force to screen troop movements in the presence of the enemy, as was the case preceding Cannae. Hannibal had a force of 2,000 slingers known as Balacreans or sometimes Balearics; it is said that these men from the Balearic Isles derived their very name from their ability to sling stones, that is, from the Greek "ballein," meaning to cast or to throw. Xenephon is said to have been dissatisfied with his conduct of the Retreat of the Ten Thousand until he organized a band of slingers to protect his rear. The sling was made either entirely of leather or else made of cords with the leather at the end to hold the missile. When sufficient momentum had been gained by whirling it around the head, one of the strings was let go and the stone hurled at its target. A slinger usually carried two slings, one for lighter stones and one for heavier. Slingers wore no armor and carried their stones in a fold of their tunics in front of the breast whence they might be easily and quickly extracted.

THE ROMAN ARMY

Its Organization: Roman armies were composed of citizens to whose sense of shame there could be no greater tragedy than to be deprived of the privilege of bearing arms in the defense of their country. The Roman legion was completely and thoroughly Roman and the allied legions had an interest in the well-being of Latium and were trained in Roman methods and discipline. The Roman legion of the third century B.C. was known as the manipular legion which had, in the process of time and circumstance, developed from the old Dorian Phalanx. Space does not permit the tracing of the steps of its evolution but the legion here described is the one which the Romans used for two hundred years following the close of the Samnite Wars late in the fourth century B.C.

The original tactical unit of the Roman army was the century which, as its name implies, was composed of 100 men. This number later varied and at the time of Cannae was sixty men to a century. The century was composed of six files, ten men deep; this was joined to another century of like formation and the two, taken together, formed the tactical unit of the legion and was called the maniple. The maniple, then, had a front of twelve men each of whom headed a file ten deep. There were maniples composed of three classes of soldiers, known as the *hastati*, the *principes* and the *triarii*. The hastati, who closed with the enemy first, were twenty-five to thirty years of age; the principes who held the position in the rear of the hastati, were thirty to forty years of age; and the triarii, who as a sort of reserve, were veterans of forty to forty-five years of age. This last class composed a maniple on sixty men only. The three maniples taken together constituted a cohort and to each cohort was assigned a body of 120 light-armed troops called *velites*, who were young men ranging from seventeen to twenty-five years of age. Thus the cohort, which was the larger tactical unit was composed of 420 men. Ten cohorts made

a legion, that is, the infantry of the legion, and totalled 4,200 in number. Sometimes the strength of the legion varied, going as high in times of unusual danger as 6,000. The cavalry unit was called a *turma* and was composed of thirty men, arranged in ten files, three deep. Ten turmae composed the cavalry wing, or *ala*, of the legion. Thus, the total strength of the legion normally amounted to 4,500 men. Now, more often than not, the ancient writers in referring to a legion mean *one* Roman legion *plus one* allied legion, that is a legion from one of the Italian states whose relations to Rome were regulated by treaty. The allied legion had a numerical strength equal to that of the Roman legion with the one exception that its horse consisted of 600 instead of 300. Thus, the legion understood in this larger sense meant a body of 9,300 men. Two such legions operating together formed a consular army.

The maniples were arranged in "quincuncialis" or checkerwise fashion and between them there was an interval supposed to be approximately sixty feet in width. The historical records do not tell us enough about these intervals and they can be spoken of only with reservations. While the intervals gave the legion the mobility which characterized it, they still were a source of weakness, for the more courageous enemies of the Romans infiltrated here and endangered the functioning of the maniples. The Romans being well-disciplined could face either to the right or to the left to meet an enemy who had penetrated the interval, but nevertheless this was still a source of danger.

The legion was essentially *offensive*. It did not wait for the attack as did the phalanx but always took the offensive immediately. Whereas the phalangite could hold his opponent off at some twenty feet distance, the Roman, after casting his spears (pila), made haste to come to close combat and use his effective *gladius* or sword. It is interesting to note that as long as the Roman army was composed of free and voluntary citizens, the intervals remained; but when the army became mercenary and professional, the intervals were abandoned and the ten cohorts closed up in a manner reminiscent of the old phalanx. The old Roman citizen soldier could be counted on to exhibit great courage and for love of home and country would risk any danger. When the great, burly Gauls first saw the Roman soldiers they laughed aloud at their diminutive stature; but when they came to close quarters, the laughing stopped. When the legionnaire had dulled the edge of the Gallic longsword, he closed under his opponent's guard and dispatched him with a thrust of the short sword. The average Roman soldier was between five feet and five feet four inches tall; if they had the choice of a man over or under that height they would always choose the shorter man, for they considered him far the better soldier.

The cavalry was the chief source of Roman defeats. In this arm they were notoriously weak, chiefly because Romans had some inherent antipathy to mounted service. The Roman legion had a ratio of fourteen foot to one horse; if, however, the term be used to include the allied legion, then the ratio was nine to one. At Cannae, the Roman ratio of foot to horse was ten to one, whereas the Carthaginians' was four to one, a comparison which is extremely significant. At Zama (202 B.C.) the Romans showed that they had profited to a degree by the lessons which Hannibal had taught them in Italy in the value of the cavalry, but despite this their apathy to serving on horseback never wore off. By Caesar's time there was no Roman cavalry, this service being performed by allied troops, famous among whom were the Batavians who saved the day at Pharsalia.

Battle Order: An engagement was opened by the sounding of the cornu and the tuba together. This was followed by the battle cry, which of itself was frequently an indication of victory or defeat, depending upon the heartiness or the weakness of it. At a second signal the troops advanced at a quick step. Sometimes there would be a third signal for the double-quick which would be accompanied by loud shouts and the clashing of spears on shields, as well as by a blowing of all trumpets and horns. The velites then engaged in light skirmishing. At the advance of the hastati, the velites would fall back, by way of the intervals and take up a position in the rear, while the heavy armed first line would engage the enemy seriously. At eight or ten paces they would hurl their pila and then close with the gladius. Should this first line of troops tire or be overcome, then the second line or the principes would advance and continue the work of the battle. The triarii or the third line, composed of the most experienced veterans, would kneel on one knee, with their shields in front of them warding off missiles. The cavalry would usually engage the enemy cavalry at the commencement of the battle, though this was not always the case. At the Metaurus (207 B.C.), Hasdrubal seems to have had no cavalry at all. The cavalry, if victorious, engaged in the pursuit of the enemy.

Arms: The hastati or first line troops were completely and heavily armed. They wore helmet, cuirass, and greaves and carried a shield, sword and two pila. The helmet, derived from the Boeotian helm, was close fitting, covered the back of the neck, sometimes was equipped with a nasal and carried a crest. The crest which ran transversely to the Greek style, consisted of a circle of feathers, with three upright feathers, either black or red, rising to the height of about one foot. Two or three types of cuirass were worn at this period. The simplest was the pectorale or heart protector, consisting of a square piece of metal large enough to protect the thorax hung over the chest and counterbalanced by a similar plate hung down the back in a parallel position the two connected by two thongs. The other two kinds worn were called by their Latin name, *"lorica"* which is equivalent to our word cuirass. The laminated lorica being composed of lames or plates of steel was often worn by officers in Imperial times. This cuirass consisted of 7 strips of steel which, sewn to a tight fitting leathern jacket, encircled the body, opening down the front and hinged in back. Four or more lames passed over the shoulders and supported the weight

of the cuirass, being pivoted at either end and working freely; directly in front and attached to the lowest lame, were three or four dependent lames or lambrequins. The segmented lorica consisted of a leathern jacket upon which were sewn small pieces of metal and which had the appearance of a coat of mail.

The shield of the hastati either square or oblong, curved in cylindrical fashion on about a nine inch radius. The shields of Imperial times seem to have been longer than in the late third century; they had borrowed this shield from the Samnites and called it the "scutum." It is reproduced on Trajan's Column. The thickness at the rim was a palm's breadth and both upper and lower rims were protected by an iron edge. The shield was made of two planks of wood glued together, the outer surface being covered first with canvas and then with calfskin. In the middle was an umbo or iron boss, effective in warding blows as well as in pushing against the foe.

The Roman sword was the famous *gladius* or short-sword borrowed from the Spaniards; this sword is said to have killed more humans than any other type. It was a straight blade 22 inches long, 4 inches wide and double-edged; the width was uniform and the point acute. The psychology of this sword was that of bravery; it required the closest sort of combat, whereas the twenty-one foot spear of the hoplite kept his adversary at a respectable distance. It was a cut and thrust weapon, the thrust being considered the more effective of the two methods. Vegetius, in his De Re Militari, says that the Romans owed their victories to the point rather than to the cut, for, he says, "When cutting, the right arm and the flank are exposed, whereas during the thrust the body is guarded, and the adversary is wounded before he perceives it." Richard Burton, following Vegetius, says, in his "The Book of the Sword," that "Even now it is remarked in hospitals that punctured wounds in the thorax or abdomen generally kill, while the severest incisions often heal. General Lamoriciere, a scientific soldier, recommended for cavalry a cylindrical blade, necessarily without edge, and to be used only for the thrust; practical considerations, however, prevented its adoption." The hastati also carried two pila or spears used as missile weapons. The stout ones were either round or square and were a palm's breadth in diameter. The fine ones, carried in addition to the stout one, were about four feet in length, each one being fitted with a barbed head; this barb was sometimes used to pull away an opponent's shield.

The principes and the triarii were armed in this same manner excepting that the triarii carried long spears or hastae which they used in the fashion of the pike.

The velites were light armed troops. They wore no cuirass or corslet but simply a tunic made of leather and scalloped at the bottom; some are supposed to have worn tunic of quilted linen. Their helmet was a plain casque with cheek pieces but no crest; this they covered with a wolf's skin or the like which served not only as a protection but also as a mark of distinction. The helmet was lined with leather or sponge. Their shield was that type called the parma which had, in earlier days, been adapted from the Etruscans; it was three feet in diameter, made of wood and covered with leather. The velite usually carried a javelin four feet long, the iron tip of which measured nine inches; this tip was hammered out to such a fine edge that it necessarily bent on first impact and it would therefore be useless for the enemy to return it, its effectiveness having been destroyed. If, at times, the velite carried darts they were about thirty inches long and about the thickness of the finger.

The Roman cavalry of this period was poorly armed, a defect which was not remedied until near the close of this war in 202 B.C., and at the time of Cannae they were greatly inferior to the Spanish and African horse. What little they had in the way of armor was poor. Polybius tells us that their shields could stand but very few rains; the water would cause the bull's hide which covered them to curl up and crack, leaving the uncovered wood exposed to the elements. These shields were either round or oval or hexagonal. Their lances were tipped at both ends so that if one end became bent or broken the other end would be usable. That they learned valuable lessons from Hannibal's cavalry was indicated by their equipment at the close of the Second Punic War which consisted of helmets, greaves, darts, twelve-foot lances and curved swords.

Miscellany: A brief comparison of rank in the Roman army with our own system will not be inappropriate at this point. The Consuls, elected yearly by the Roman people, were the army commanders. If both consuls were with the army at the same time, as was the case at Cannae, they would command on alternate days. Unless granted special permission by the Senate, the army commander must serve on foot. He was distinguished by a purple mantle and was accompanied by anywhere from two to twelve lictors, as the occasion warranted. Next in command were the Legates, whom the Senate appointed, and whose rank compares with that of our generals of divisions. The War Tribunes ranked with our brigadiers or colonels, but their duties and the rotation of command caused them frequently to perform the work of lieutenant colonels and majors. The Centurions who were the heart and strength of the army, approximated our captains; there were two to a maniple, a senior and a junior. The lieutenants of today were then represented by sub-centurions who commanded half a century each. The Signifers or color-bearers were men of unusual bravery and physical excellence who ranked as do our sergeants. The Decurions or corporals commanded files of ten men each and made up the front ranks of the maniples.

The General Staff, if such it may be called, consisted of quaestors or legates who served as paymasters, quartermasters, commissaries and ordnance officers. The aide-de-camps were volunteers known as contibernales. The mensores and censores were a special type who oversaw the making and the breaking of camp. Ante-mensores and ante-censores were the topographical engineers. Augurs

and priests, who always accompanied the commanders, were constantly consulted for omens.

Flags were originally used to call troops together. The standard, as such, seems, according to some authorities, to have originally been a simple affair, consisting of no more than a bundle of straw on the end of a stick; later a hand was carved and mounted on the end of a pole, hence the name maniple, which, as one author suggests, might have meant a handful in the sense of a squad. The manipular standard had 5 discs with emblems and this was surmounted by a hand in a ring. The "colors" of the legion were an eagle of either gold or silver mounted on a staff with the number of the organization affixed to it. There were two standard-bearers or vexillarii in each maniple.

Signals were given by trumpets, each of which had a range of notes and overtones peculiar to its construction. The Cornu, a round, curving affair and the Tuba, a long, straight instrument, were sounded together for the attack. Another type was the crescent-shaped Bucina. The cavalry had a horn all its own called the Lituus, which was long and straight excepting at the lower end where it bent at a ninety degree angle. The Cornu also sounded the watches or the vigiliae.

A Comparison of the Legion with the Phalanx: In the XVIII Book of his *Histories,* Polybius compares the legion with the phalanx. This is a question which has never been satisfactorily settled for, as Colonel Dodge remarks, the best legion never met the best phalanx under the best commanders. The Pyrhhic Wars proved nothing: at Heraclea and Ascolum a superior general defeated an inferior general, and the use of elephants for the first time against the Romans upset all possibility of a reasonable comparison. At Cynocephalae, Philip V of Macedon did wrong to use the phalanx on broken ground, but had his illustrious namesake been present the phalanx would have prevailed despite the irregularity of the terrain.

In the first place, the phalanx could function smoothly and effectively only on level ground cleared of all obstacles, while the legion maneuvered with equal ease on either broken or level terrain. Second, five sarissas are projecting in front of each phalangite; each phalangite occupies a three-foot frontage; so the legionnaire, who requires six-front frontage to wield his weapons, has facing him ten sarissas; the legion's disadvantage here is painfully obvious. But the phalanx's advantage is here offset by the fact of the far greater mobility of the legion. Yet where the phalanx lost in mobility it compensated for the loss by having a greatly superior cavalry. The superiority of the legion, which unfortunately was thrown to the winds by Varro at Cannae, is strengthened by the fact that it kept a reserve, that is, the triarii and the velites, whereas the phalanx employed its full force at once. Finally, when the phalanx advances after the first shock or is driven back, its characteristic formation (wherein lies its strength, virtue and genius), that is, its solidity and impenetrability, is broken; when broken, it is immediately dissolved by the cavalry and the short sword. The difficulty of arriving at a satisfactory conclusion in a comparison of these two tactical formations may be recognized when we remember that Arrian, although commanding a legion, asserted the superiority of the phalanx.

From Saguntum to Cannae: (218-216 B.C.) After reducing the city of Saguntum (See Map No. 1) in Spain, which act in itself was a declaration of war, Hannibal marched northeastward subduing all tribes that lay in his path. He set out with 90,000 foot and 12,000 horse. When he began his ascent of the Alps, his army numbered 60,000 troops. When, fourteen days later, he had completed his crossing of those mountains, he was left with 20,000 foot and 6,000 horse. South of the Po he met Publius Scipio at the Ticinus (See Map No. 2) and there administered a sharp defeat to the Roman cavalry; this lesson of cavalry superiority was not lost on the Roman, who immediately removed to higher ground. His colleague, Sempronius, next engaged Hannibal at the Trebia, where a second defeat was suffered by the Romans. After the Ides of March, 217 B.C., Flaminius, more of a politician than a general, took control; his army was crushed and almost massacred in a narrow defile which skirted the eastern shore of the Trasimene Lake.

Rome now appointed a dictator, Fabius Maximus, whose policy of never coming into an engagement with his enemy has given his name to that type of tactics. His reasoning was sound and his leadership wise, but the ancient "On to Richmond" psychology took strong hold on the Roman people and at the conclusion of his term as dictator, Fabius was not reappointed. Hannibal, having exhausted the country round about Geronium, where he had spent the winter of 217-216 B.C., moved suddenly to Cannae where he seized one of Rome's largest grain supplies in Italy. Two days later, the Roman army began to move and shortly came in touch with the enemy near this little village.

Let us now consider the immediate factors of the situation, that is, the temperaments of the commanders, the morale of the army, the features of the terrain and the season of the year.

The Commanders: Varro, commanding the Roman forces the day of the battle, was a plebeian of the demagogic type. He had risen in the estimation of the populace chiefly by attacking the patricians and widening the already existing chasm between those classes. In all of his inflammatory speeches he accused the nobles of bringing the Carthaginians into Italy; he charged, also, that Fabius had prolonged the war to the great detriment of the Roman people. He promised, moreover, that should he, Varro, meet Hannibal he would immediately bring the war to a conclusion by defeating that redoubtable general. Varro's military training and experience were a minimum and his reputation as a soldier was gained chiefly in the Forum; this same type afflicted our Federal armies seventy-five years ago. In a word, Varro was ignorant, tactless, and unrestrained. Hannibal banked upon the latter quality to

bring the Romans into battle, a thing which he had sought for over a year.

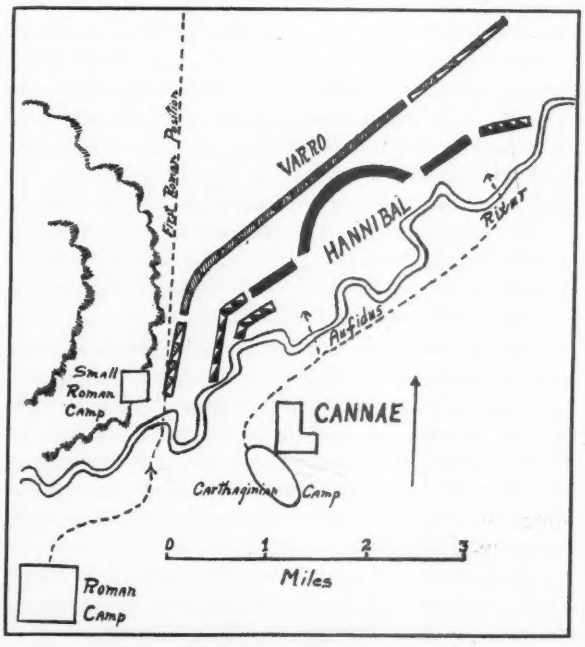
To speak of Hannibal is to describe perfection in the military art and its application. When speaking above of the motivation of the Second Punic War, Hannbal's disposition to learn every possible factor entering into a situation was referred to. In matters of reconnaissance he was especially careful, performing a great amount of this for himself. Livy, in describing the manner in which Hannibal passed around the Romans at Arretium, says of him that he "then employed the utmost diligence in inquiring into the dispositions and designs of the consul, the nature of the several parts of the country, the roads, the source from which provisions might be procured and every other circumstance requisite to be known." Hannibal was close-mouthed; he rarely consulted; he gave orders for things to be done immediately; no one knew his thoughts, all of which is reminiscent of Stonewall Jackson. The Romans were well acquainted with the discipline of war but to the art of war they were strangers. Their first great tutor in this art was Hannibal. To them a battle was a stand-up fight in which the better man would win, but strategy lay without their ken. No man surpassed the Carthaginian general in this respect. In directing his brother Mago to take 2,000 men for the ambuscade near the Trebia, he said to him, "You will have to deal with an enemy who is blind to the strategems of war." And, finally, no fact can better reveal what a master and commander of men Hannibal was than that for sixteen years he kept together, in enemy territory, without reinforcements from home, an army composed of a variety of nations, whose ideas, customs and speech differed, and maintained this army undefeated either by mutiny or by the enemy until his recall to defend Carthage in 202 B.C.

Morale of the Armies: At the time of Cannae the Carthaginian troops were in the best of spirits; their commander had led them in three major victories; they were veterans and were welded together into a close-knit, effective fighting machine. The prospect of much booty lay before them and they entered into battle with cheerful spirits. The Romans, on the other hand, entertained some doubts. Although they were not altogether raw levies, still the training in skirmishing which Fabius had given them was not equal to the training and experience of their opponents. They had the confidence of numbers, being almost two to one over their enemies. They were not mercenaries but were rather fighting for home and country; they were animated by true patriotism and by the courage of despair. And so they entered the battle determined rather than confident.

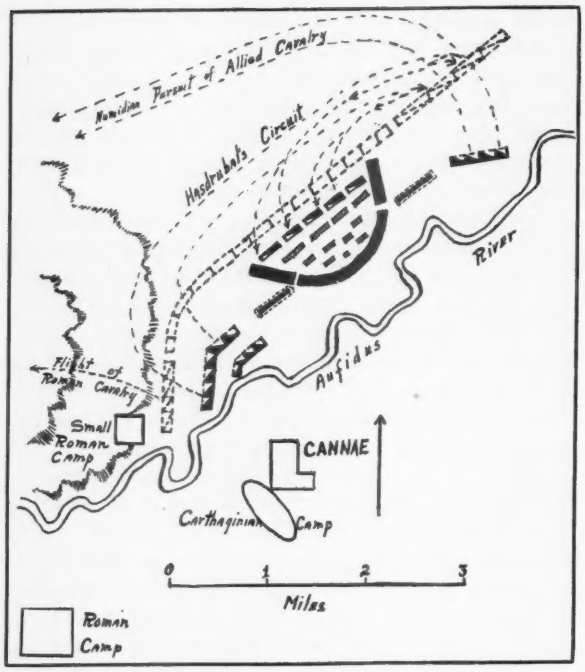
The Terrain (see Map No. 3): The village of Cannae lay in the southern part of the Apulian Plain, a wide, prairie-like expanse bounded on the north and the west by mountains, on the south by a rolling terrain and on the east by the sea. Through this plain flows the Aufidus River, the only stream to cut through the Apennines; its course is from southwest to northeast and is characterized by sinuous windings. The plain rises gently from the sea to the mountains west of Cannae. The even character of this terrain lent itself admirably to phalangial tactics and to the free maneuvering of cavalry. Hannibal could have chosen no better place for the scene of the "perfect battle" than this smooth, bare plain of Cannae. To the southwest may be seen the peak called Vultro and to the north the mountains of Samnium.

The battle of Cannae took place in midsummer. Some authors set the exact date, Von Schlieffen, for example, taking August 2nd, but in view of our slender knowledge it is sufficient for our purposes to be more general. The season is important for more than one reason. At this time of year the Audus is low and fordable, it would not hem an army in and yet it would provide a delaying obstacle in case of a rear attack. The sun, which at this season of the year rises in the northeast, shone in the eyes of neither army, as both Livy and Polybius tell us; hence, without going into the intricate discussion as to which side of the river the battle was fought on, we simply conclude, with other evidence justifying us, that the action could not have occurred on the southeast bank. This is strengthened by the fact that a southeast wind blows at this time of the year, which the Greeks call Eurus, the Romans Volturnus, and the inhabitants of southern Italy today call Scirocco; this wind, striking the backs of the Carthaginians, blew into the eyes of the Romans a great volume of dust which it had rolled up in its course over the wide plain, thus causing them both discomfort and disadvantage. These specific references to sun and wind lead us to believe that the action was fought on the northwest bank of the Aufidus.

The Battle (see Maps Nos. 3 and 4): To protect their foragers, the Romans had established a smaller camp on



Map 3: First Phase, Battle of Cannae



Map 4: Final Phase, Battle of Cannae

the north side of the Aufidus. Against this camp Hannibal sent his Numidians, hoping thereby to aggravate the Romans to the point of action. The stratagem succeeded and the rash Varro threw out a large number of troops to punish the enemy. The Numidians, with losses, were driven back but it aided Hannibal's plan. He had read aright his adversary's temperament and knew that now, with an appetite whetted by a measure of victory, Varro could not be restrained from joining battle. But on the day following, the command, by the principle of alternation, lay with Aemilius Paulus and hence there was no battle, for Aemilius was a disciple of Fabius and his good judgment warned him not to engage the Carthaginians on the plain where their superior cavalry would work the Romans a great disadvantage. However, the day after this, Varro, being in command, led the Roman legions across the river at sunrise and took up a strong position with his back to the hills on the west of the plain. The position was a good one, well chosen in view of the greater mobility of the Roman army.

Upon perceiving the movements of the Romans, Hannibal immediately set his forces in motion and, with a covering force of 2,000 Balacrean slingers and some light infantry, crossed the Aufidus taking up a position not parallel to the Romans but at an angle, with his back to the river. He secured his flanks by resting both cavalry wings, at a slight angle, on the bank of the river, both bodies maintained the continuity of the line of battle but the Spanish and Gallic horse deflecting their left wing to the southeast and the Numidians their right wing to the south. When Varro saw this he abandoned his well-chosen position and, pivoting on his right wing, moved his line in a southeasterly direction until it paralleled the Carthaginian line of battle. By this movement, he lost the protection of the hills and exposed himself to a superior cavalry.

The Carthaginian forces numbered 50,000 men. Of these Hannibal left 8,000 for the protection of his camp and put the remaining 42,000 into the line. The Roman army numbered 87,200. 14,000 of these were set aside to guard the camps, 11,000 for the main camp and 3,000 for the smaller camp. This left Varro 73,200 for his line. The Roman advantage numerically, therefore, was almost two to one.

Varro, realizing his superiority in numbers, made the fatal error of changing the formation in which the Romans had been accustomed to fight. Whatever its advantages may have been, it left the troops, nevertheless, in an uncomfortable and awkward position. Just how he did this we are not told, Polybius simply stating that "the maniples were nearer each other, or the intervals were decreased more than usual, and the maniples showed more depth than front." Also, Varro departed from the custom of making the Roman legions the center and the allied legions the wings, and placed the Romans on the left and the allies on the right. Then, following the almost universal custom of those times, he divided his cavalry into two bodies and placed them on his flanks: the Roman cavalry, 2,400 men in number, forming the extreme of the right wing and the allied cavalry, 4,800 in number, being placed on the extreme left opposite the Numidians. Aemilius Paulus commanded the right wing, Varro the left wing, and the proconsuls, Atilius and Servilius, commanded the center.

It is not unlikely that Hannibal, in making his dispositions for the battle, remembered both Marathon and Leuctra. His problem, like the constant one that confronted Frederick the Great, was to effectually reduce the numerical superiority of his opponent. To a great extent, the ignorance of Varro had solved a portion of this problem for him, shortening the Roman front and increasing its depth, thus voiding in part Roman advantage in numbers. He employed the lesson of Marathon by making his center weak, by being sure that the enemy would make a special effort to crush it, and by reserving his finest troops, the Africans, to wheel inward on the exposed flanks of the advancing Roman center. He used Leuctra to advantage by making his left cavalry wing preponderantly strong, thus assuring himself of crushing one wing of the enemy. Accordingly his dispositions were as follows: in the center he placed the Spanish and Gallic infantry, ten men in depth; his African foot he divided into two equal forces and stationed them on either side of the center. The total infantry strength of this formation was 32,000 men. Then on his left, Hannibal placed his finest cavalry, the heavy Spanish and Gallic horse; this was formed in two lines, two-thirds being in the front rank and one-third being in the rear, the cavalry strength of this left wing being 8,000. On his right wing he stationed the Numidian cavalry, a force of 2,000 men.

To be sure that the Romans would reënact the rôle of the Persians at Marathon, Hannibal, in addition to making the center of his line obviously weak, used a most original device. Either before the beginning of the battle or during the skirmishing of the light troops, he advanced the Spanish and Gallic foot in such a manner as to form a crescent, the outer rim of which came close to the Roman center and the flanks of which kept their contact with the Africans on either side. The line of the crescent was ten deep, while the African flanks were sixteen deep. The novelty of this formation had a twofold purpose: first, it concentrated Roman efforts on the center, and second, it maintained the Africans as a reserve. The cleverness of the first purpose had more than one aspect: not only would it cause a concerted effort against the Carthaginian center but the possibility was that as the whole front of the crescent was attacked and it retreated it would throw the Roman troops into such close contact with each other that they would not be able to wield their arms freely. This possibility became an actuality.

Hannibal and his brother, Mago, commanded the Carthaginian center. Hasdrubal commanded the cavalry on the left wing and Hanno commanded the right wing.

When the cornu and the tuba had sounded and the battle cry had rent the air, the light troops advanced and engaged in skirmishing. On the left, Hasdrubal commanding the heavy Spanish and Gallic horse, made a fierce attack on the Roman cavalry. The majority, according to custom, dismounted and fought on foot. The Romans, in order not to be borne down by the sheer weight of the enemy's horses, also dismounted; when the fact of the Roman cavalry fighting on foot was announced to Hannibal, he remarked to the staff officer who had brought him the news, "This pleases me better than if they had been delivered to me bound hand and foot." The uneven fight between 8,000 veteran cavalrymen and 2,400 mediocre horsemen could not last long. The Romans fought bravely but were soon put to flight, heading for the western hills for safety.

Meanwhile, the Roman left wing was in a quandary. The allied cavalry, composing this end of the line, did not know what to do in view of their opponents' tactics, for the Numidians would appear to make an attack but would then wheel off and ride around their rear. While the Numidians were thus engaging the attention of the allied cavalry, Hasdrubal, who had wisely refrained from pursuing the Roman cavalry, made a wide circuit in the rear of the Roman army. Upon the approach of this powerful body, the allied horse broke and fled. At this point, Hasdrubal exhibited a fine sense of coöperation with his commanding officer: he did not pursue the demoralized cavalry of the Roman army but left that to the Numidians whose skill in pursuit was among the most valuable of their assets. He then described a sort of half-circuit back to the rear of the Roman center and threw his force against this line.

While Hasdrubal had been making these two attacks, affairs in the center of the lines had been working out to perfection. When the light skirmishers had withdrawn, the hastati advanced and the serious work of the engagement began. Little by little, the Romans forced their opponents back. If sheer weight of some thirty-six men or more, especially trained for close combat, did not force back the thin line of ten men, then confidence in numbers would have given the Romans the necessary motivation. Moreover, here again the short sword of the Roman legionnaire showed itself superior in the thrust movement to the Gallic longsword in its sweeping cut. The convex crescent was becoming a straight line: the Roman requirement of five to six feet for effective use of weapons was reduced to three feet and then to eighteen inches; jammed together they could scarcely wield their weapons, but back the enemy went and the Romans felt, at this point, that they had won the day. And perhaps they might have been the victors, had not two things happened. Their commander, Varro, seeing the Carthaginian center being slowly but surely forced back decided to clinch what he thought was his victory by sending in the triarii and velites, who until this moment had constituted a reserve. So with this movement the Roman reserve was gone and no troops were left to provide against future contingencies. The straight line now became concave. The addition of the triarii and the velites to the combat gave no opportunity to widen the space between soldiers and resulted in a poor and ineffectual use of arms. Then happened the second event that snatched victory from the Roman eagles.

At this moment, when the hastati and the principes were exhausted and the triarii and velite reserve were fast tiring, Hannibal gave the order for his fresh, unused African troops to wheel inward on the flanks of the Roman center. Here Marathon was repeated and Tannenberg was forecast, but neither of these victories was perfect, for they were outflanking on two sides whereas Cannae was on three sides.

At the same time that the African wings wheeled inward on the disorganized Roman center, Hastrubbal appeared on the Roman rear flank thus closing off all hope of retreat or escape. Thus, with this third element, Cannae became the perfect battle, a battle of annihilation. The Romans fought with the utmost bravery and acquitted themselves with honor. Their lines grew shorter. They faced outward to meet the attacks of the enemy, but the pincers closed in on them pitilessly and they were crushed. The maniples fought independently and were cut off and destroyed piecemeal. Some groups managed to cut their way out. When the Carthaginians were themselves exhausted with the massacre, they took the remaining 3,000 Romans prisoners. The spirit of the old Roman Republic revealed itself in an incident that occurred near the close of the battle. The Consul, Aemilius Paulus, who had advised against the battle and who had come in to assist the center when the right wing had been broken, remained on horseback until the loss of blood from his wounds had weakened him too much. He then sat himself down upon a rock while men were

flying by him attempting to escape. One of these men, mounted, a military tribune named Cornelius Lentulus, recognized the consul. Dismounting, he offered his horse to Aemilius and exhorted him to escape, saying that he would now be the one man who could save Rome. Aemilius refused and sent the tribune on his way. Then, gathering up what strength he could, he plunged into the battle in the face of the enemy and died upon the field of honor. So great was Hannibal's opinion of this consul that he searched among the slain for his body that he might bury it with honors.

Thus ended the battle of Cannae. A great variety exists in the reports of casualties but a conservative analysis of both the figures and the writers who give them would set the Carthaginian losses at 8,000, the majority of these being Gauls. The Roman losses are estimated at 40,000 foot and 4,000 horse.

The causes of victory and defeat may be briefly recapitulated. The mistakes of Varro were these: first, he left a good position where he had the hills as a protection and came into the plain where his enemy could fight much better. Second, he changed the customary formation and put his men into an order that was both new and awkward. Third, he could have crushed the crescent without expending his reserve. Fourth, he left the field of battle and escaped before there was a certainty of Rome's defeat. Hannibal's epic generalship revealed itself chiefly in the original device of the crescent which had a twofold purpose, one being to lure the Romans in and the other being to maintain his Africans as a reserve. Hannibal had the opportunity of choosing his ground by reason of the precipitate nature of Varro; hence he selected a place where the phalangial formation could operate advantageously and where the cavalry could maneuver freely. The perfect liaison between Hannibal and his cavalry commander enabled him to entirely surround his opponent. The dictum of Clausewitz that a force inferior in number should not attempt concentric action against a numerically superior force may be offset in this case in view of the fact that Varro gave Hannibal the advantage by adopting a new and unwieldy formation on the eve of battle.

The value of Cannae is attested by the importance which great commanders of the past have attached to it. Napoleon's words were quoted above. The principles of Cannae were adopted by the German General Staff as basis for their World War plans. In the preface to the 1925 edition of the English translation of Schlieffen's *Cannae,* Baron von Freytag-Loringhaven, General of Infantry, retired, said:

". . . the Field Marshal . . . always endeavored . . . to keep alive in the General Staff and thus in the army at large, the idea of a war of annihilation. . . . Hence in his writings he often attributes his own ideas to the leaders of the past—among them Moltke—when he wishes to prove that to achieve a decisive victory of annihilation, *outflanking*—preferably from two or three sides—must be resorted to as Hannibal did at Cannae. Modern battles Count Schlieffen characterizes even more than earlier battles as a 'struggle' for the 'flanks.' . . . Except for Tannenberg, a real Cannae did not occur in the World War. That one did not occur in the West at the beginning of the war is the fault, in the first instance, of the Supreme Command. Indeed, it was the Schlieffen Plan on which our operations were based, yet in their actual execution it was departed from. His constant exhortation to make the right flank as strong as possible was not heeded."

Whether or not Schlieffen's attribution of Cannae's example to subsequent commanders be subjective, as Freytag-Loringhaven intimates, the fact remains that the demonstrated principles of Cannae have secured victory for those who have skillfully applied them. The powerful reinforcement of one wing with the purpose of rolling up the enemy's flank did not originate with Hannibal. Epaminondas used this device with the greatest effect at Leuctra (371 B.C.) when he massed his hoplites to a depth of fifty men on his left wing and crushed the Spartan phalanx under Cleombrotus. The same principle was applied in the famous "Oblique Tactics" of Frederick the Great against the Austrians at Leuthen (December 5, 1757), where he advanced against the enemy in echelon from the right, each battalion striking an oblique blow at the enemy's flank as it came into actic .; Frederick himself in his *Military Writings* describes the principle thus: "You refuse one wing to the enemy and strengthen the one that is to attack. With the attacking wing you do your utmost against one wing of the enemy which you take in the flank. An army of 100,000 men taken in the flank may be beaten by 30,000 in a very short time." The Germans lost the Battle of the Marne by their failure to apply this principle, von Moltke weakening the German right under von Kluck by depriving it of 400,000 men and delivering the blow at Charmes and Epinal where it failed. The strategy implied in the crescent of Hannibal that is, of luring the enemy in at the center so as to take him in the flanks, was utilized at Tannenberg in 1914 when Hindenberg's center retreated towards Allenstein and Samsonof was caught in the pincers of the reinforced German left and right wings. Although many examples of the Cannae principles might be adduced, as Schlieffen has done in his book, the above will suffice to give some idea of their value.

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NOT TO KNOW *what has been transacted in former times is to be always a child. If no use is made of the labors of past ages, the world must remain always in the infancy of knowledge.*—CICERO.

Crazy Business

By PETER B. KYNE

CONCLUSION

While we were in Camp Genecourt waiting to go home I got into trouble with the lieutenant colonel. The colonel was seldom with us now. He was up in Paris having a good time. We had to go down to the dock at Bassens and put in a day stevedoring. Well, the night before, I had gone in to Bordeaux to dine at the Capeau Rouge, and here I ran into a lieutenant colonel that owed me a hundred and fifty dollars I had been trying to get out of him for months. He seemed flush and neighborly and I thought: "If I stay with this bird and get him tight he may loosen up. I've got to get this hundred and fifty before we go home because once I get aboard that transport I'll never see him again."

Alas, he needed no help from me toward accumulating a beautiful bun. He got boresome and his gang suddenly left him and I took him in tow to find his automobile and drive him home. But the M. P.'s garnered in all United States Army automobiles after ten o'clock and there we were at midnight in darkest Bordeaux in a pouring rain and my tow very wishful to lie down in the gutter and sleep. I had to get us both under cover, which eventually I succeeded in doing. I then frisked his pants and lo, he only had a few francs left, otherwise I would have collected.

Now it was a regimental order that officers of our regiment should not sleep out of billets and through no fault of my own I had disobeyed that order. I felt justified in disobeying it in order to save an officer from disgracing the uniform and maybe catching pneumonia and dying before he could pay me that hundred and fifty dollars. (As a matter af fact he never paid it.) Well, sans breakfast, I arrived at the dock at Bassens in a taxi just as my regiment appeared to start muling a lot of dunnage and the lieutenant colonel tied in to me and I offered no defense. I was weary and had had no sleep, which brought on a headache and I wished I could go home and lie down. About three o'clock the lieutenant colonel turned over command of the regiment to me and about four o'clock I turned the command over to a junior captain and thumbed a motorcar ride back to Camp Genecourt. As the column was marching back the lieutenant colonel came by in the colonel's car and said: "Where is Captain Kyne?"

Nobody knew, so when he got to Genecourt he looked into my cubicle and found me doing bunk fatigue, roused me out and gave me the devil for abandoning my post. I suggested I had as much right to turn over the command to my junior as he had and where was the harm, anyhow. He then said I was contumacious and just for that he sentenced me to a week's confinement to quarters to teach me discipline and humility.

I howled with laughter and asked him since when had he accumulated authority to sentence an officer and a gentleman to confinement sans conviction by a general court-martial. He blinked at that and had a suspicion he had exposed his military ignorance, but he still insisted that I hive up for a week in my quarters. So I told him to betake himself to Gehenna and assured him I was going out that night and get tight.

I did—and came in about 2:00 a.m., quite noisy and the lieutenant colonel, who, evidently, had been looking up his rights in the Blue Book, asked me mildly to simmer down and not disturb everybody. So I jeered him and cussed him out a little and only piped down when I found on my pillow a cablegram from the editor of the *Red Book*, whose heart I had almost broken while writing my novel, "The Valley Of The Giants," in Camp Kearny. He had left that employ and was now editor-in-chief of all the Hearst magazines, and he begged me not to commit myself to any literary obligations until I had seen him because he was in position to offer me the top of the world.

I yelled aloud: "Nothing doing. I'll never write for William Randolph Hearst. I do not like him or his policies. I think he's pro-German. I'll not write for him."

"Has he asked you?" came the mild voice of the lieutenant colonel over the partition.

"His editor has cabled me," I replied.

"Well, then, don't write for him," my superior officer urged. "Be a good fellow and go to sleep."

"Since you speak to me kindly now I'll do that," I replied and fell asleep. And I was never bothered any more about confinement to quarters, which proves that even lieutenant colonels can, when they ditch their irritation, be good fellows, too.

Just before we left for home there occurred in our regiment the most abysmal piece of wild jackassery of all. A general order came down from Chaumont informing us that enlisted men of the regiment who were natives of European countries might, conceivably, wish to be discharged in France so they could make a trip home very cheaply; later, if they desired to return to the United States they could come at government expense on a government transport by showing the proper credentials. The order went on to state that such men "may be discharged upon making application to the proper authority."

As soon as I read this order I told my command about it at retreat and within ten minutes fourteen Italians and

Bohunks had applied for discharge. So we made up the discharges and final statements and I had the lieutenant colonel sign the discharges. I was about to issue them to the men when the lieutenant colonel came barging in and he was in a state of mind. He had commenced to doubt that we had proper authority to discharge the men. The verbiage of the G.H.Q. order confused him. It read: "Men may be discharged" but it didn't say "men shall be discharged" or "men must be discharged." There was a certain firmness of tone lacking in the phrase, so I was ordered not to issue the discharges until he had taken the awful thought up with the commanding general of Base Section Six. So he did, and that individual permitted himself to be sold the idea that all was not as it should be with that G.H.Q. order, so he wired to have it clarified.

I protested to my superior that he was building himself a mare's nest; that as one reasonably well versed in the use of the English language I could assure him that the order meant that it was not compulsory for such men to apply for discharge; they could apply for discharge if they blamed well felt like it. I, of course, felt assured that with General John J. Pershing's authority to proceed I might as well not wait until the general in Bordeaux received the bawling out I felt his stupidity would bring down upon him, so I called my lads in, gave them their discharges and final statements and warned them to beat it to Bordeaux, cash their finals immediately at the paymaster's office there and get out of town.

Within the hour the general in Bordeaux, after mulling the matter over, telephoned out to stop all discharges and to round up those men who had already been discharged, take their discharges away from them and await further orders. So the lieutenant colonel had a provost guard haunt the paymaster's office and as each buck showed up they nabbed him before he could cash his finals and dragged the wretch back to Camp Genecourt and robbed him of his honorable discharge and final statements. The fact that the provost guard did not catch any of my men meant, to the lieutenant colonel, that I had obeyed his orders. Failure to capture the first sergeant of Supply Company took on the aspect of a mystery which I could have explained. He was a dear friend of mine in civil life and a member of my clubs, so as soon as he had his discharge he dropped in on me, wilfully declined to salute me, and hailed me as Pete. He said he was going down on the Riviera to visit his sister. "Clear out," I told him and gave him the reason. On my advice he walked several miles up the railroad beyond Bassens, flagged the train to Paris and cashed his finals there.

The saddest case of all, however, was that of the colonel's striker, whom I shall call Jukes. Jukes was a Cockney and had been a batman in a Highland regiment, so naturally, he was smart and dug himself up the job of striker for our colonel. He had not yet left Genecourt when the lieutenant colonel caught up with him and demanded that he surrender his documents. Jukes had a few drinks aboard and laughed that one off. But the lieutenant colonel was insistent so Jukes cussed him out after the fashion of a free man who for long has had a lot of cussing bottled up inside him. Whereupon the guard fell upon Jukes and bore him to the ground, despite the mighty battle he put up, and robbed him of his documents and then threw him in the can, where he languished, forgotten, until we moved down to Bassens to go home and poor Jukes, believe it or not, was carried along with us and denied his right to discharge in France in order that he might make the mere hop, skip and jump across the channel to Perfidious Albion. Englishman that he was I almost felt sorry for him. So if Jukes ever saw his native land again he had to work his way back or pay his own way steerage. Of course very promptly G.H.Q. told the commanding general of the Bordeaux area to get off his foot and the ban on giving out discharges was lifted. The lieutenant colonel came over to my orderly room and told me himself and I laughed and told him I had not been damned fool enough to obey his silly dictum and had never intended to.

We put the men through the mill and finally, one night, we marched down to the dock at Bassens, booked to board the naval transport *Matsonia* and go home. We arrived at 8:00 p.m. and hung around in the cold until 2:00 a.m., before going aboard. However, as usual, I was lucky. I met a captain of engineers, a friend of mine in civil life whom I hadn't seen for ten years. He fell into my arms, announced that he owed me fifty dollars (I had forgotten it long before), paid it and took me up into his dock office and we had hot Grog Americaine and conversation around a box stove until it was time to load the troops.

At this juncture one of my bucks appeared in great distress. It seems this boy was at that tender age when any kind of dog can claim his love and he had found a little French cur, rather good-looking and very smart. This dog he had named Cognac (pronounced coneyack) and now some superior officer had informed him that Conevac must be left behind. Some stupid health regulation of the Bureau of Animal Industry required that Coneyac must be provided with a health certificate, which is practically impossible to secure at 2:00 a.m. of a windy, rainy morning on a dock in France.

Well, myself when young did eagerly accumulate mongrel pups and bring them home to the great distress of my mother, so my heart went out to this boy. I told him to see the bandmaster, present my compliments to the latter and say to him that I desired the bass drum should not be carried aboard in the case; that my soldier desired the case to conceal Coneyac and would then carry case and Coneyac aboard. It developed, however, that this was not possible, the bass drum case having already gone aboard with a battalion of the 143rd Field Artillery, who had concealed in it a small French boy, their mascot. So Coneyac went aboard in the tuba case and when we reached San Francisco Coneyac, at the end of a string, marched in front of the first platoon while the little French boy, in a cut-down khaki uniform, marched beside me. Two days after we got to sea the kid hauled him out

"He had not yet left Genecourt when the lieutenant colonel caught up with him and demanded that he surrender his documents. Jukes had a few drinks aboard and laughed that one off."

of the mailroom. His father, a sous-lieutenant, had been killed at Verdun and his mother had passed away in 1911. Since 1914, when his father joined the colors, he had been a wandering waif, existing God knows how. I had no little boy and he had no father and we both considered it would be fine business if we took care of each other. So I had decided to take over the Frog and give him a break in life. Besides, it was Christmas morning and I thought I owed myself a present for all that I had suffered.

En route home we had a nice calm day for a change so I organized a boxing tournament and the Navy set up a ring on number 2 hatch. As I was hurrying around to this ring to get things going I ran into our regimental chaplain, the naval transport chaplain, the YMCA secretary and the Knights of Columbus secretary all tied up in a knot and engaged in a furious verbal brawl as to which one of them should have charge of the athletics on the boat. I listened to them all, in turn, advance their claims to this dubious honor and then said: "You can all lay off bossing the boxing tournament because that's my job." They gave me dirty looks.

Now, I had in my battery Chief Mechanic Madison, as shifty a welter-weight as ever drew on a glove. He was champion in his class of the 40th Division and might as easily have been champion of the A.E.F. He lacked the killer instinct, however, and preferred not to hurt his opponents; although he had a horrible sock he loathed cutting the other fellow up. So he craved decisions on points. Nor was he afraid to take a licking, either. He was just a nice sweet young fellow until I offered him five dollars in American money for a knockout. After that a charging rhino had nothing on Madison.

Well, the Navy had been giving the soldiers a horrible time but this trip the flower of California manhood thrashed every bluejacket that appeared on the fatal scene. Madison earned fifteen dollars by delivering three

knockouts in about half a round. Then the Navy trotted out a huge heavyweight and I had no heavyweight to meet him and announced the fact. I was interrupted by a jab in the ribs. Chief Mechanic Madison was speaking: "I'll knock the big stiff out for you, sir."

"But Madison," I whispered, "this man weighs two hundred and twenty and you only weigh a hundred and fifty-eight. He may be good—and you know as well as I do that no good little man ever knocked out a good big man."

"I'll tear him to pieces," Madison promised and added: "For ten bucks."

So I said that my Chief Mechanic Madison, although exhausted from three previous fights and only a welter at that, would, for the honor of the Army and ten dollars from me, knock out the heavyweight prize of the transport *Matsonia,* and let 'er go!

Madison did the job in a round and a half.

By the time we reached New York on January 3, 1919, my little French boy had turned over to me for safekeeping his worldly wealth—seven hundred and thirty-five francs, and was calling me fader. Of course the master of the transport reported the little stowaway to the immigration authorities when we docked and an inspector came looking for the kid and found him with me. So I said I was going to look after the brat and asked how one went about importing a little French boy. He told me and asked me to take the child down on the dock and presently he would join me and take the boy over to Ellis Island.

General Shanks met me and sternly demanded to be informed where I thought I was taking that stowaway. I told him I was going to take him to Ellis Island and secure for him legal admission into the country. He assured me that was not possible and to take the boy back aboard again. I assured General Shanks that I usually got what I went after and that I'd telephone the Secretary of Labor in Washington and have the law waived. This appeared to distress the general who ordered me to be silent and obey. Just then the immigration inspector came along, took the child by the hand and said: "Well, come along, captain, and we'll see what can be done."

The general, realizing he was licked, said nothing further, but I have always wondered what business it was of his, anyhow. I was much inclined to tell him so but finally decided I was too close to civil life to tangle with a general. At Ellis Island the immigration chief gave me a handshake and, after I had given him my word of honor that I would cherish the boy as I would my own son and send him to school until he was sixteen years old and repatriate him if he should develop into a public charge, he waived the law and I went back to New York with my new son. The regiment had already gone on to Camp Merritt, so I went up to see the editor who had cabled me not to make any literary commitments until I had first consulted him. I did not call for the purpose of consulting him, but because he was my friend and I had treated him badly on that "Valley of The Giants" novel. However, he had a new job and I'd soon be out of the Army and he would take a chance on me for another novel and another and another and boy, sign on the dotted line. I declined. I said: "I want to be able to have my executor have carved on my tombstone: The boy had his faults but he never wrote for William Randolph Hearst."

Two days later I visited him again. He was to accompany me to a luncheon my book publishers were giving to me. I said: "Hurry or we'll be late and the guest of honor must not be late." He said: "Just one moment." He laid a document, in duplicate, before me and handed me a fountain pen. Pinned to the documents was a check for ten per cent of the total price of the first of two novels he was asking me to contract to write. "Sign on the dotted line," he ordered—and just to indicate how the direct command operates on one in the military service I humbly signed, for I had flu and I was tired and arguing wouldn't have done any good with that man anyhow.

Later he told Mr. Hearst about rounding me up and what I had said about Mr. Hearst and the epitaph I wanted on my tombstone. And Mr. Hearst thought that was funny and said: "Well, you tell Peter to consider how much more imposing a tombstone he can have, now that he has decided to write for me."

I had told Snooper the hotel at which I would put up, sans permission from superior authority, and had instructed him to telephone me in case it seemed necessary for me to get out to Camp Merritt. The third day he telephoned me, as I lay ill abed, that my son was in a hell of a way. It seems two Swedes, Gunderson and Osberg, had taken the kid out and fed him alien grub and a lot of chewing gum. My son had a cute habit of swallowing his gum after the taste had been used up and now he was tied up in knots. And there was no medical man in camp except Old Doc and Old Doc was fuming around the child and cussing me because now he thought he had at last, something on me. He said I was neglectful and heartless. I told Snooper to tell Old Doc that if he tried to treat my French son I'd kill him and instructed Snooper to give my son a dose of castor oil. It did the trick. Snooper had previously tried C.C. pills, but I always say that when you have a wad of chewing gum in your starboard gut put your faith in castor oil.

The next day Snooper again 'phoned to inform me that two staff officers from the New York area were looking for me. Snooper, the old fox, had sniffed them and they smelled like trouble to him. So he told me to lay low. I did, arriving back in camp just in time to go aboard the troop train that was to bear us back to California.

Nine years later I was seeing my old friend, Colonel Dan Hand, of the field artillery, off on a transport at San Francisco and he introduced me to Major General P. C. March, retired. It will be recalled that the general was Chief of Staff during the war. Instantly, the general demanded to know what had become of me after I landed at Camp Merritt; he said he had had staff officers looking for me to bring me down to Washington to do publicity for him for about six months. I laughed and reminded

"Two Swedes, Gunderson and Osberg, had taken the kid out and fed him alien grub and a lot of chewing gum, and now he was tied up in knots."

him that you can lead a mule to water but you can't make him drink, and that any time I wrote publicity for two hundred a month with an allowance for light, heat and quarters, when I could make what I could writing fiction, naturally any publicity I might turn out would not have been fit for human consumption. That was the narrowest escape I had in the Great War.

Well, we went rolling west, the first battalion in sixteen cars, and at Niagara we got a hot box and the station agent informed my major that it would take forty-five minutes to put in a new brass and get us rolling again. So the major ordered me to take the troops off the train and jog them up the road a mile. Niagara Falls was only three miles distant so I begged him to permit me to take the men up there, ill as I was. He refused.

So I took the troops sightseeing to Niagara Falls and the major was so angry he said he'd court-martial me. After he cooled down, however, I called him into my drawing room and gave him of a bottle of very rare old Scotch whiskey my editor had given me for my flu. So we settled for that, and after the third drink he confessed he was glad I had disobeyed him. Knowing him quite well I was certain of that before I dared disobey him!

The war women were gone as we wended our weary way back to San Francisco. Not a doughnut, not a cigarette, not a package of gum. The hysteria had subsided, thank God. However, out in Hutchinson, Kansas, a little band of the Sisterhood still hung grimly on. They had a kitchen set up in the Santa Fe waiting room and proudly provided hot coffee and home-made doughnuts to the westbound troops passing through. Early in the evening of the day we were to pass through Hutchinson the major received a wire informing him he could expect hot coffee and home-made doughnuts for his command at Hutchinson. Inasmuch as we were not due in Hutchinson until midnight, the major brutally retired and told me to sit up and placate the Sisterhood as best I could.

I got off in a terrific blizzard and fought my way into the station. A thin little woman with sharp alert features dashed up and grabbed me. "Where are your soldiers?" she piped.

"Dear lady, the soldiers are in bed. In the Army, even when traveling on troop trains, we never permit soldiers to sit up after ten o'clock. If we did they'd play poker and shoot craps and smoke cigarettes."

"But do you mean to tell me you're not going to let them have our coffee and doughnuts?"

"No, but I'm not going to boil them out of their warm nests into this blizzard for the sake of a cup of hot coffee and a couple of your excellent home-made doughnuts. They were rather well fed at supper. I have come to thank you for your hospitality and to suggest that if you will permit me to have the doughnuts loaded in the commissary car I will be happy to see to it personally that every soldier receives his allotment of cold doughnuts for breakfast."

Said this amazing little woman: "Mister, we don't give a damn whether they like our doughnuts or not. Don't you understand that we want the pleasure of watching them eat? We've been hanging over the stove all evening and we have to get our fun out of this. No, sir-ee. You can't have our doughnuts to take with you."

"Well, give me a cup of coffee and a couple of your hot doughnuts then," I begged. "Get a thrill out of watching me eat."

She replied: "No, you're cruel."

So I said: "Oh, for God's sake, get out of the doughnut business. If the truth was known all you women are a grade A nuisance anyhow. If it isn't doughnuts it's hymns and hand-knitted socks. The war is over. Go home."

I helped myself to four doughnuts when she wasn't looking and left. As I recall it they were pretty soggy doughnuts at that, and my soldiers had been accustomed to a far superior brand. Still, it's a pretty low-grade doughnut that I will not eat.

When we crossed the Colorado River and were back in California again the battalion let out a yell that echoed far across the desert.

At Bakersfield, California, we sat around all day killing time. The entire regiment lay over there until late at night so we could detrain at the Oakland Mole at 8:00 o'clock the following morning, for we had to conform to

a schedule to fit the homecoming arrangements of the citizens of San Francisco. Until that morning I had never had the slightest idea of the number of people I knew. They shook hands with me by the hundreds, and total strangers, hearing my friends and acquaintances name me, came up and extended the welcoming paw, too. My hand was sore and slightly swollen before we got away and started our triumphal march up Market Street, in column of platoons.

Right here I wish to go on record as stating that if there is anything calculated to make a modest or sensible man feel like a fool, it is to go away to a war with a spectacular regiment, never get into action and then come home months ahead of the poor devils that did get into action and be received with much banzai by the home town folks. A holiday had been declared in honor of our homecoming, the street was roped off, flags waved and all San Francisco was there to welcome us, even if we hadn't fired a shot to make the world safe for democracy.

And then arrived, in an ambulance from Letterman General Hospital at the Presidio, a fiend in human guise —a young medical officer, with over two thousand flu masks and an order from one General McClernand for the regiment to wear them on its triumphal march up Market Street.

The cup of hemlock the Greeks handed old Socrates would have been pink circus lemonade compared with this draught they handed my colonel. What! March up Market Street looking like a lot of stick-up men. B'gosh, he wouldn't do it. "Suit yourself," said the medico. "I've given you the written order and you've receipted for it, so all I have to do now is stick around and see whether you obey it or not. I'd advise obedience. General McClernand is a stickler for it."

So we masked ourselves and marched up Market Street to the cheers of the multitude. At the City Hall we stood around two hours while the mayor orated, while our colonel made fitting reply, while other supreme jackasses sounded off for the sake of the votes that might be in it. Finally, when we got under way, I was too ill and tired to continue, so I slipped out of ranks, ducked into an automobile salesroom and emerged five minutes later with a little Dodge sedan, in which I rode proudly at the head of my battery while the colonel bravely hiked it to the Presidio.

The day after we arrived at the Presidio the junior officers were discharged. All my lieutenants immediately left, with the exception of loyal old Snooper, who sat in and worked three days and nights for love and loyalty helping the first sergeant and me with the voluminous paper work incident to demobilizing the outfit. And when the job was done he went away without saying good-bye. I was glad, because I wasn't any more up to it than Snooper. And, as a matter of fact, he didn't belong to me and hadn't for two months, and thereby hangs a little tale I almost forgot to mention.

It will be recalled that when Snooper, at the colonel's insistence, consented to step from first sergeant to second lieutenant, his consent had been predicated upon the colonel's solemn promise to that while he, the colonel, remained in command of the regiment, Snooper should never be taken from me.

In France my brother battery commanders were not long discovering that the only real second lieutenant in the outfit was Snooper. They didn't know, of course, that he was a Blue Bird and had learned his soldiering in the Fifth Cavalry. One battery commander, who was the adjutant's pal, coveted Snooper, so the adjutant issued an order, which the colonel signed, transferring Snooper from me to the latter's battery.

When the order reached Snooper he came to me and said very quietly: "Captain, unless you can have this order rescinded I shall telegraph my resignation as a second lieutenant to G.H.Q., and as soon as it is granted I will reënlist as a private in your battery."

My first sergeant, who had great admiration and affection for Snooper thereupon rolled his cold eyes at me and said: "I, of course, should immediately resign as first sergeant so Mr. Snooper could have the diamond back."

I leaped into my little Bayard car and descended upon the colonel. I shoved that order under his nose and reminded him that once he had given me his word of honor, as an officer and a gentleman, that this would never happen while he was in command. He admitted it and got very red and said he'd kill the order.

Two weeks later the order was re-issued and again I called upon the colonel and said: "Sir, it would interest me very much to know your idea of what constitutes a promise made on your honor as an officer and a gentleman. Personally, I do not think very highly of it and neither does Mr. Snooper, who is going to wire his resignation to G.H.Q., and when it is granted he will reënlist in my battery as a private. Of course I'll make him first sergeant, again, but in the meantime this issue lies between you and me. How about it?"

He was distressed but stood his ground. He told me I must release him from that promise—exigencies of war, etc. I told him his excuse was not valid and merely based on his old ruinous habit of playing social and political favorites. So this angered him and he insisted that the order must stand and, as usual, ordered me out of his presence.

When I got back to my village and informed Snooper of the situation he just started for the post office to send his telegraphic resignation, but I called him back and said: "I'll write your telegram, Snooper, and when it reaches G.H.Q., it will not do the colonel any good. Meantime, however, I have an idea. Just do not obey the damned order and we'll see what happens."

Nothing ever happened and Snooper did duty with Battery A to the day of his demobilization three months later and we had a quiet little laugh when regimental headquarters, still preserving the fiction that Snooper had obeyed the order, formally demobilized him as a second lieutenant of E Battery!

I had planned to give my battery a banquet downtown

and blow in something like eighteen hundred dollars left in the battery fund after I had had a picture of the battery taken and given each man a print, but the commanding general would not let the men out of the Presidio because of the risk of influenza if they mixed with the civilian population. They would have been civilians themselves twelve hours after the banquet and before the flu germs could incubate but General McClernand was beyond argument. And I still think his order was shrewdly designed to save our battery funds for the government.

Five days after my battery had been demobilized they let me go. I went to an office to receive the order for my discharge and before giving it to me the soldier clerk shuffled a number of cards in order to find the order attached. I saw that these cards were a sort of military record, signed by the colonel and the adjutant and decided I'd find something interesting if I looked at mine. So, after the soldier set it back on the pile I picked it up. The soldier made a leap for it and cried: "You mustn't look at your card, captain. You're not supposed to see it."

"Son," I replied, foiling him in his purpose, "I'm the lad who did a thousand things in this man's army he wasn't supposed to do. I have lived eighteen months as a military outlaw and I'll quit as one. Do not make an issue of this. I'm still in the Army, I'm still a captain and you are a private. Attention!"

While he stood at attention I read my foul record. At

"While he stood at attention I read my foul record. At the finish the colonel and the adjutant had triumphed. My rating was sixty-three per cent."

the finish the colonel and the adjutant had triumphed. My rating was sixty-three per cent, as I recall it! I commenced to chuckle at the thought that these two considered they had sufficient military perspicacity to rate anybody, or that this final poke, which I did not deserve, could possibly hurt me. I handed the card back to the trembling soldier and he handed me my discharge and a red chevron and I went out to my car and climbed in and went home without saying good-bye to anybody.

I lived in Berkeley. At the filling station where I used to trade I stopped for gas and to tell the attendant that if he ran into my old chauffeur, Jules, to tell Jules I was back and to report for duty unless he had a better job. But Jules, poor boy, had contracted pneumonia with influenza and had been buried that morning. I was feeling a little sad at being a civilian again and the news of Jules' death still further operated to depress me.

I arrived home about sunset and went to the sideboard and shook myself up the first old-fashioned Bourbon whiskey cocktail I'd had since leaving for the war. I walked to the window and looked out across the bay to the Presidio and silently drank to the ghost of the outfit that had been so dear to me. Then I went upstairs and changed to civilian clothing; I came down and dined with my family and when his plate was empty the French kid said to my wife: "Bung da bung!"

"What is the child saying?" she demanded. "Who ever heard of such an outlandish language?"

"It is perfectly intelligible to me, my dear," I replied. "The Frog speaks no English and I speak very little French and that badly, so we have invented a language. Just now he said: 'Ring the bell.' He wants another helping."

In the morning I donned dressing gown and slippers and with mon petit crapeau went for a walk in my garden. We were going to have an early spring and the Japanese flowering fruits were out in all their soft loveliness; I noticed that slugs were eating some of the plants and made a mental note to buy a duck to eat the slugs. . . . The Frog had me by the hand saying in our own private language: "Father, will you buy for me some white rabbits? And a bicycle? And a rod for the fishing? And a gun? And a puppy?" I had just answered yes when I heard tinkling noises up in my garage, so I went up and there stood ex-Private Marchand! He gazed upon me solemnly and I noted that, albeit out of the army five days he was still in uniform, so why ask questions? I knew the story.

"So you will not be demobilized, eh?" I said. "Well, my old chauffeur is dead, so the job's yours. I pay better than most for the kind of service I know you can render. You're broke, of course."

"Yes, sir."

"Had your breakfast?"

"No, sir."

"Go down in the kitchen and get it. There's a servants' room in back. Not a bad billet."

"I thank the captain."

I really didn't need Marchand, but something told me I had to have him, if only as a souvenir of my last adventure in soldiering. I could dream brave dreams in the tonneau while he took over the responsibility of evading traffic risks. He would look after my field dogs and my guns and fishing tackle and keep an eye on the Frog. When I informed madame that we had taken on Marchand she was agreeable, but stated that she could never possibly ride in the same car with him and his incredible army teeth. "Ah, yes," I told her, "I remember he only had a few snags when he enlisted, so I bought him a cheap set that make his mouth look like the keyboard of a cottage organ. Better take Marchand downtown and buy him a wardrobe and have your dentist make him a decent set of civilian teeth. And Marchand is not to wear a chauffeur's uniform. Just a blue or gray double-breasted suit with a cap of the same material to match, and no leather visor or puttees. Marchand wore a uniform once and so did I and we'll let it go at that."

Poor Marchand. Tuberculosis demobilized him in the end and I drove my own cars for a long time after he died. And the Frog turned out to be a problem child. A psychopatic superior the psychiatrists called him, a potential criminal, so when he was sixteen I gave up. I had given my word of honor that if he threatened to become a public charge I would repatriate him. He kept running away from home and I knew he had pulled off one little burglary and pinched a fifty dollar bill from me and the truth wasn't in him. So I had the lad repatriated and that wasn't easy, for, strangely, I had learned to love him with all his faults. And he had no virtues to speak of. In 1925, in a Foreign Legion plane on the Riffian frontier he came hurtling down out of the skies. I kept his Airedale dog for a long time but the Airedale, like his little lost master, was a runaway, too, so finally I offered no more rewards for him. When ex-Private John Baker picked him up over in Alameda and telephoned me, I gave him to Baker who was as glad to have him as I was to get rid of him, for he reminded me poignantly of the Frog and the Frog, who was dead, had called me fader!

One day I found in the garage a little box in which Marchand used to keep old nuts, bolts, washers, wire, tape, and socket wrenches, and in this litter of iron mongery I came across the old fifty-dollar set of army teeth I had bought Marchand. I buried them in the garden.

The years tip toe by and I have become famous, or perhaps merely widely advertised, and I have made and lost fortunes, and made them again and always the fame or the advertising or the notoriety has never given me a tithe of the thrill I knew when I had my face turned toward the paths of glory. I still think, as I thought the evening of the day I was demobilized and I stood in the window and looked across the bay of St. Francis to the long row of cantonments on the Presidio shore, that never, never any more will I have such a grand job and such grand jolly young rascals to do the job with me. There has not, nor will there ever be again, the old loyalty, the old obedience,

the old order, the quiet restful discipline, the deep masculine affection. Never, never any more money lending, no more youngsters to comfort when somebody at home dies and they want to weep in the privacy of my quarters because they are soldiers and feel shame to weep in the presence of their comrades. No, never again any more ingenuous youth to guide in the paths of morality and manliness and sanitation, no more little men, no more spiteful men, no more dull, humorless men, no more neurotics, no more BIG men, no more grand men, no more leaders—and never again the holy thrill I knew when the flag came down and the band played The Anthem and I saluted for my outfit in that lovely touching little nightly renewal of The Faith, the unchanging pledge of the sort of loyalty possible only to those who have known the magic of the drums and to whom the sad plaintive voices of bugles mourning in the night must ever speak a various language.

But I have something left that time can not rob me of until, for me, time shall have ceased and I am alone with the ages.

I have a treasury of golden memories upon which I can draw drafts as the years crowd upon me and The Reaper walks among us and, one by one, cuts the Old Soldiers down.

THE END

Change in Membership Dues Voted at Annual Meeting of United States Cavalry Association

The Executive Council of the Cavalry Association on June 10, 1936, in order to encourage membership, authorized the reduction in annual dues to $2.50 per year when five or more individuals forwarded applications for membership or reimbursement of dues as a group.

The above authorization, as originally intended, has found more widespread application in the personnel of the National Guard and the Cavalry Reserve. It served the purpose for which it was intended, and the membership in the Association has been increased by a material figure. After almost three years of trial it has been found that once a membership was enrolled at the reduced rate of $2.50 per year the member has been rebilled at that figure for subsequent years even though his dues were returned individually rather than in a lump sum covering five or more members. Thus, we find that approximately 3/5 of all cavalrymen in the Army of the United States are receiving the JOURNAL at $2.50 per year, while the remaining 2/5 are billed at $3.00 per year. Manifestly there is little equity to all concerned in such a condition.

As far back as 1931 the records of the Association indicate that efforts were made to place dues in the Cavalry Association on the comparable basis of all other service associations. The Cavalry Association for the past several years has been the only one which has carried dues at less than $3.00 per annum. In fact, there are two services whose annual dues are $4.50 per year, and the majority of all others receive $4.00 per year from all subscriptions other than individual. It is believed that The CAVALRY JOURNAL is commensurate in size, contents and makeup with most of the other service journals. It would appear that if other arms and services evaluate their periodicals at $3.00 per year the same should hold for the Cavalry Association.

In accordance with the above reasoning this subject was brought up for discussion at the annual meeting held in Washington on January 16, 1939. Representatives of all three components of the army were emphatic in their indorsement and recommendation of placing dues in the Cavalry Association on the same basis as all other associations. In view of this concensus of opinion, the subject was placed before the meeting of the Executive Council, held immediately after the adjournment of the Annual Meeting. By unanimous vote it was directed that, effective January 17, 1939, dues in the Association and all subscriptions to The CAVALRY JOURNAL shall be confined strictly to the basis of $3.00 per year.

For those members whose annual dues became effective prior to January 17, 1939, and who have received statements for the ensuing year, dues for that period will remain at the same figure at which they were initially billed. However, new subscriptions and membership dues which will become due from that date forward will be billed at $3.00.

Moving Stalled Vehicles and Crossing Difficult Terrain

By Lieutenant R. W. Porter, Jr., 9th Cavalry*

The motorization of trains and the increasing use of motor vehicles in the cavalry has brought up many problems. Little difficulty is experienced keeping vehicles moving on a hard surfaced road but it requires force and ingenuity to keep them moving cross country under unfavorable weather conditions. This discussion will be limited to movements cross country and over poor roads.

When time permits a movement over poor roads or cross country should be preceded by a thorough road reconnaissance. This reconnaissance will show where trouble is to be expected and expedients can be planned to overcome these difficulties.

The driver must be schooled to study the road ahead and to select the gear and speed best suited to the terrain and to the road surface.

Precautions are necessary. It is better to stop vehicles to put on chains before entering a muddy stretch of road than to push into this questionable stretch, become mired and block the road for other vehicles properly equipped to cross this bad terrain. Also roads often become worse as they are used, so road conditions should be watched and the necessary preventive measures taken.

Once a vehicle is stalled there are several lines of action which can be followed:

(1) It may be possible to improve traction by using rocks, tin cans, weeds or grass under the wheels and by digging a trench for the front wheels. If not badly mired the vehicle may then move on under its own power.

(2) The vehicle may be pulled out by another vehicle which has sufficient power and traction.

(3) A "deadman" may be improvised and used in conjunction with one of the following:

a. Block and tackle from light maintenance truck.

b. Spanish windlass made from rope, taken from light maintenance truck, and pipes or stout poles.

(4) An "A" frame can be built and used in conjunction with a towing vehicle having good traction and sufficient power to move the stalled vehicle.

Each military motor vehicle is equipped with towing hooks front and rear fastened to the vehicle frame. In addition each vehicle should be equipped with a towing cable or chain and a shovel. Wheeled vehicles should carry tire chains for all driving wheels.

Also the light maintenance truck of each horse regiment and the maintenance platoon of each mechanized regiment have the following equipment which will be very useful:

(1) Block and Tackle Set (Unit Equipment Set Number 4):

1 Block, double, steel, 1-inch, with becket and safety hook.
1 Block, single, steel, 1-inch, with becket and safety hook.
300 feet of 1-inch manila rope.

(2) From equipment of the Maintenance Platoon:

1 Sledge, 8-pound.
1 Axe, hand.
Saws.

Improvement of traction of the mired vehicle and towing need little explanation. The situation will quickly indicate what should be done.

Should a vehicle become mired or stalled a deadman may be used with a block and tackle. If a suitable tree or stump cannot conveniently be found a post may be sunk in the ground; or steel pins used from the troop picket line; or a heavy truck can be used at times by turning the truck sideways and hooking onto the truck frame.

Figures (3), (4), (5), (6), and (7) show the hook up and the passage of a four-wheel drive truck up a very steep, muddy grade. Traction was so poor that three scout cars were necessary to get the truck up the steep bank.

The towing chain is first fastened to the two hooks on the front of the stalled truck. The single block is then attached to the towing chain. The double block is fastened to a deadman with suitable rope or heavy chain (see Figure 2). The 300-foot length of 1-inch rope is then strung through the pulleys: one end is fastened to a coupling provided on the single block, the other end of the rope to the towing vehicle.

Care must be taken during the use of the block and tackle to see that the sharp steel edges of the blocks do not cut the rope as the load is applied to the tackle. Experience will soon indicate whether the stalled vehicle should assist the towing vehicle or whether the foot brake of the stalled vehicle should be used to offer a steady resistance to the block and tackle and towing vehicle. The drivers should be carefully instructed as to just what they should do as the job progresses.

The block and tackle can be used in many varying situations where a deadman is available or can be improvised.

*Instructor, Department of Weapons (Motors), The Cavalry School.

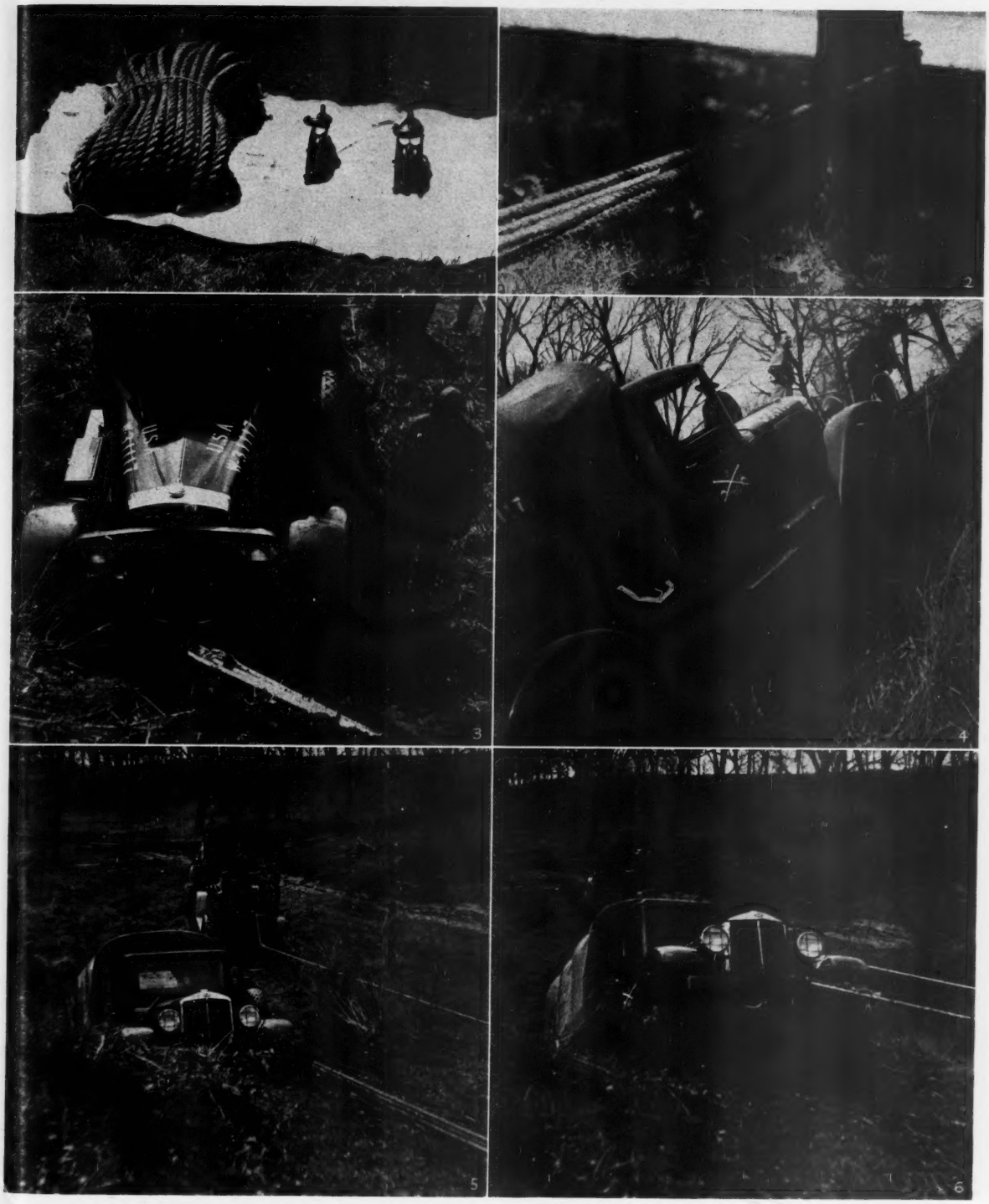


Figure 1: Unit equipment set No. 4. Figure 2: Double sheave block and tackle lashed to a tree with rope. Figure 3: Using block and tackle. Truck is at foot of steep muddy slope. Towing chain has been wrapped around hooks and single Figure 5: Using block and tackle. Three Scout Cars were utackle. Note angle made by the truck with the horizontal. sheaf block has been attached. Figure 4: Using block and sed for towing because of the mud. Figure 6: Using block and tackle. Job nearly completed.

Figure 7: Using block and tackle. Job completed. Figure 8: Using Spanish windlass: Note attachment of rope to Scout Car. Figure 9: Using Spanish windlass: Crew winding windlass. Vertical pole anchored in hole to prevent slipping. Figure 10: Using Spanish windlass. Scout Car beginning to move forward out of sand. Figure 11: Using an "A" frame. Poles are being lashed together. Front end of truck must be lifted vertically about three feet. Figure 12: Using an "A" frame: Frame in position and towing rope attached.

Figure 13: Using an "A" frame: Front wheels have been raised and stalled vehicle can now assist towing vehicle. Figure 14: Using "A" frame: Vehicle now able to proceed. "A" frame was pulled along by towing rope ahead of stalled truck. This picture also shows construction of a modified "A" frame. The bottom member is not used. Instead the bases of the inclined members are placed in holes dug in the ground. This gives the necessary lateral support to the frame.

For example it can be used in getting through bad mudholes, up sharp, steep slopes or in towing vehicles across deep unbridged streams.

Figures (8), (9) and (10) show the use of a Spanish windlass and a deadman. This expedient is valuable when a lone vehicle stalls and rope but no towing vehicle is available.

The rope is first attached to the mired vehicle and is then looped around an upright piece of pipe or timber stripped of bark. The rope is then drawn taut and the free end attached to a tree trunk or some other suitable deadman. The rope is then looped around one end of a stout pole which together with the upright pole or piece of pipe form the windlass. This latter pole is then moved to the horizontal position with respect to the upright timber. Part of the scout car crew then wind up this windlass drawing the vehicle from the mudhole.

Care must be taken in using a windlass to see that the upright pole which serves as a fulcrum does not slip as tension increases on the rope. Sinking the upright into a hole at least one foot deep will generally prevent slipping and removes much of the danger element from the use of the windlass.

Had rope and a single sheaf block been available the lone stalled vehicle could have been pulled out by improvising a deadman, fastening the block to it and then using one of the driving wheels as a drum around which the rope can be wound. The engine operates this drum and great tractive power results. This expedient is easily used when the stalled vehicle has dual wheels.

At times a vehicle becomes stalled in negotiating a low vertical bank or by dropping into a deep ditch. An "A" frame can be improvised quickly to get the vehicle out of trouble.

An "A" frame consists of three stout poles about eight feet long lashed together with rope to form a triangle. The tow rope is fastened to the towing hooks or the frame of the stalled vehicle. It is then fastened to the apex of the "A" frame by a half-hitch or some similar knot and finally to the towing vehicle. The location of the "A" frame with the vertical when the tow rope is taut determines the vertical lift delivered from the "A" frame. The greater the lift required the more the "A" frame departs from the vertical.

The stalled vehicle generally helps the towing vehicle. Once the front wheels of the stalled vehicle are free of the ditch or embankment the driving wheels of the stalled vehicle assist the towing vehicle.

Disabled vehicles present special cases. Each case usually requires a different solution. The maintenance truck with its equipment together with a careful analysis of the damaged vehicle's location and disability will generally suggest a solution.

Rope and ingenuity are great helps in moving stalled vehicles from mudholes or over difficult terrain. Cavalry cannot be tied down by existing road nets. It is necessary for the motor vehicles which accompany our Horse Cavalry Regiments to keep up. Careful reconnaissance will prevent much delay and trouble with stalled vehicles. However, once a vehicle becomes stalled, equipment is available in the Maintenance truck to get the road cleared and the vehicle again in operation.

More Anent This Shooting Business

By CAPTAIN P. M. MARTIN, *Captain, the Cavalry Rifle Team*

It will not be long now until the rifle ranges throughout the country will be centers of activity. What can we do to make this year's target season more interesting and more beneficial? Consider the following, it may be of assistance:

Is the object of the range practice to teach the best shots to shoot better, or to improve the poorest shooters? Why not do both? Recently a troop commander boasted to me that he didn't bother with the poorer shots, but had more experts than any other troop in the regiment, as a result of concentrating on his best shots. This is not for the best interest of the organization. Here is a plan which will overcome this tendency.

There is no better organization for the target range than the regular organization of the troop. Place responsibility where it belongs. Require each platoon to train and qualify its own men. Put a premium on this by rewarding the best platoon. Platoon leaders should require squad leaders to qualify their own men. If the second platoon has fewer corporals that make good rifle coaches, the platoon sergeants should pitch in and help them.

The preliminary instruction should be given carefully and thoroughly. The troop commander should personally supervise this instruction, first giving it to all non-commissioned officers. After this course has been completed the troop commander will know that his instructors are properly prepared to conduct the training of the men. The Basic Field Manual on this subject of Rifle Marksmanship is one of the best ever published, and should be followed closely.

The target season usually is long enough to permit three or four groups to be formed. The weakest shots are usually placed in the first group with the best shots. This assures the majority of the coaches being fired early. The poorest shots can be dropped back to the second group if they are not making proper progress, and again to the third group if deemed advisable.

There should not be too much emphasis on individual high scores, particularly at the expense of the well rounded instruction of the unit. Remember that it is easier to raise the low man's score ten points than it is the high man's score one point. If the poorest shots in your unit seem to be hopeless, don't worry over them, drop them back to another group and put them on the .22 caliber, not in the pits.

Just a word about this .22 caliber on the target range. What possible good can we get out of it at this time? As soon as a man shows signs of flinching, he should not be subjected to further punishment until the cause is removed. It is purely a question of relaxation. If he is sore, he becomes tense, and is a "set up" for a flinch. We have all been sore from too much shooting, and most of us know that at this time we flinch more frequently. To avoid losing time at this stage of the man's training, take your .22 caliber rifles to the target range and use them to continue the instruction of these cripples. It is economical, and hardens the men's muscles nearly as much as the .30 caliber does. In fact, if we used these .22 caliber weapons more in the winter training, we would ease our problems greatly on the range.

Pistol firing can be carried on in conjunction with the rifle firing. The best season I ever had on the known distance range was one in which we completed light machine gun, rifle and pistol dismounted, firing rifle and light machine gun in the morning and pistol in the evening.

Clever shooting is close concentration. The average soldier, particularly the younger ones, usually have not developed their powers of concentration to the point necessary for expert marksmanship. Their performance curve will be generally upward for two or three days, then flat for a few days, depending on the individual, and then downward for a short period. Learn to time this right, and a troop commander is able to get the greatest return for his expenditure of time. A failure to appreciate this oftentimes makes both shooter and troop commander the victims of poor timing. Don't overtax your shooters' powers of concentration.

Equipment for the range season is a very important factor in the success of this training. The ordnance inspection usually takes care of the greater part of the deficiencies in equipment. However, a troop commander who relies on this completely is placing some of his men at a disadvantage. Every sight, both front and rear, should be examined for looseness every day during target season. All rifles should be tested for proper stocking prior to firing. The rifles that gauge the closest may shoot the widest due to poor fitting of the stock. This is best determined by holding the rifle at the lower guard screw and gently tapping the muzzle on a firm object, if there is a

uniform vibration a good fit is indicated. This will also disclose loose guard screws. The guard screws must be tight to give accurate results. The barrel should be resting lightly against the wood, at the muzzle. If the barrel rests against the metal band, when the barrel expands with heating it will change the shot group. Some may wonder why, after an Ordnance Officer has checked all these rifles, there should be any difficulty with them. The answer is, that the stocks, being made of wood, are subject to warping, some more than others. The grain of the stock has a great deal to do with this, that is one reason you find the old shots looking for straight grain on a stock, when selecting a rifle. A period of wet weather following a dry season will warp many of the rifle stocks.

Some troop commanders may feel that this is going a bit too far. I have heard them say, "What is the use of all this, you can't be that particular in battle?" Certainly not, but other things being equal, the leader that is the most particular about the care of his men and their equipment may be the winner on the battlefield. If our troop officers would devote more thought and time to these problems, there would be fewer failures on the target range and the season would be more interesting. Be a trouble shooter. When your men are not getting the desired results, there is usually a definite reason for it. This is a challenge to your intelligence and resourcefulness. Don't be content to let your organization suffer mediocre results, when a small amount of attention to detail will raise it to a plane of excellence. Oftentimes the best solution to our problems on the target range entails the least amount of work. For example, I have seen an officer personally check every sight setting of his organization with a micrometer, when half the rifles were in such poor condition, with loose sights, loose guard screws and poorly fitted stocks, that they couldn't get a fair score with any sight setting. Had this officer carefully inspected the equipment daily, and had the necessary corrections made, he could have thrown his micrometer away and obtained far better scores.

An Efficient Rifle Troop

By MAJOR LEO B. CONNER, *Cavalry*

The new Tables of Organization (war strength) have effected a great improvement in the Cavalry Regiment. As now constituted the Regiment is more mobile, has a better tactical organization, has greater fire power, and is better fitted to perform Cavalry missions than ever before. The Colonel now has three slightly stronger squadrons, supported by efficient machine gun and mortar units, and protected from hostile mechanization by .50 caliber machine guns. His communications have been greatly improved, his trains motorized, his reconnaissance agencies augmented, and he has been furnished with a command car. Every element of his command has been improved with one exception; the basic combat organization, the Rifle Troop, has merely been reduced in size.

The Major now has a Squadron of nine rifle platoons and eighteen light machine guns, organized in three rifle troops, instead of eight rifle platoons and sixteen light machine guns, organized in two rifle troops. His command is flexible and easy to control unless he attempts to use the light machine guns to support the Squadron attack. The new Squadron is stronger than the old but it can never be stronger than the three Rifle Troops which compose its fighting strength.

The Rifle Troop is still a hybrid, consisting of three weak and inefficient Rifle Platoons and a Light Machine Gun Platoon equipped with an inferior weapon. The Rifle Troop is an organization intended for close combat, either mounted or dismounted. The Light Machine Gun Platoon, constituting one fourth of its combat strength, has no place in this type of action. The training of the Troop is complicated by different methods of drill and the necessity for proficiency with two weapons. If real proficiency is obtained with both weapons it is because the necessary time has been taken from training in tactics or horsemanship.

The Rifle Platoon is too small and its organization is poor. It can place only fifteen active rifles on the firing line. One officer, one sergeant, two messengers, and three corporals are used to control these fifteen rifles. One sergeant and six privates are back with the led horses. An overhead of fourteen men is used to place fifteen rifles in action. The Platoon is only fifty per cent effective in the fire fight.

The Rifle Platoon is frequently used as the advance party in the advance guard. Here it must detach one squad as a point. Another squad must be broken up to perform flank reconnaissance on a front of 1,200 yards. One squad only is left for combat.

The Rifle Squad itself is defective. It makes a good patrol but a half squad is too small a unit for patrolling if any messages are to be sent back. The fire power of the squad consists of five rifles. The drill of the squad does not conform to the general principles governing Cavalry drill.

The fact that the fire power of the forty-five active

rifles in the three Rifle Platoons is insufficient has long been recognized and an attempt has been made to increase it by adding a Light Machine Gun Platoon of six guns. The fire power of one of these guns is commonly assumed to be equivalent to that of five rifles. The addition of this Platoon has increased the fire power of the troop by two thirds.

So far so good. But there are a number of disadvantages.

The six guns of the Light Machine Gun Platoon, equivalent to thirty rifles in fire power, require one officer, twenty-eight enlisted men, and thirty-nine horses to make them effective in dismounted fire action. These men and horses have little value in the mounted attack or in the dismounted assault and cannot be used for patrols. The guns are inferior machine guns. They must be used as single shot weapons. While they have a greater effective range than the rifle, lack of suitable positions will generally prevent their employment at such ranges. The gun is dangerous to friendly troops when employing overhead fire even though barrels are changed after every six hundred rounds. When the guns are employed at the longer ranges they are separated from the platoons they support and control and coördination becomes difficult. If the Squadron Commander wishes to employ the guns of the Squadron in support of a mounted or dismounted attack he will find that he lacks the necessary staff for controlling and coördinating the fire of eighteen machine guns. If the guns are so posted as to fire at right angles to the direction of attack they require a rifle escort, thus reducing the strength of the main effort.

Generally it will be necessary to attach these guns to rifle platoons in order to make use of their fire power in the dismounted attack. In such a case the personnel necessary to operate them is useless when the assault stage is reached. In the mounted attack they will frequently follow the rifle platoons. When this is done the nine men who lead pack horses are defenceless. Those men who are not encumbered with pack horses may be of some value in the mounted fight but, as they are the non-commissioned officers and gunners, a few casualties will greatly reduce the efficiency of the organization.

It is apparent that I do not like the organization or the equipment of the Rifle Troop. I believe that it can be improved enormously; that its drill can be simplified; that its control may be made easier; that its overhead can be reduced; and that all of its combat personnel can be made available for any type of Cavalry mission without loss of mobility or fire-power.

To begin with I recommend that the Rifle Squad be increased by four men, making its total strength twelve men. The squad, organized in three fours, would drill in accordance with the general principles governing all other Cavalry drill. It could place eight rifles on the firing line. It could be split into half squads, each of which would be big enough to function as a patrol. The full squad would make a strong patrol when strength is required and it would not be too big to be controlled by the squad leader in the mounted attack.

Each of the three Rifle Platoons should consist of the present headquarters and three of the enlarged squads. Each Platoon would then be able to put twenty-four rifles on the firing line with an overhead of seventeen men; a considerable gain in efficiency. All men participating in the fire fight would be available for the assault. When used as an advance party it would be able to perform all necessary flank reconnaissance and still have considerable combat strength. When used in the mounted attack it would be approximately one third stronger than at present and it would still be small enough to be controlled by one officer.

The Light Machine Gun Platoon should be abolished. The changes described above would add twenty-seven active rifles to the troop. The fire power of these twenty-seven rifles is practically equivalent to that of the Light Machine Gun Platoon with one important advantage. The fire of rifles can be better distributed than that of any other weapon. The fire of machine guns is concentrated.

Only one other change need be made. Troop Headquarters has two pack horses carrying rifle ammunition. A third should be added together with one horseholder to lead it and another horse for him to ride.

In all of the above discussion I have assumed that the fire power of the light machine was equal to that of five Springfield rifles. Even if the Springfield is retained the fire power of the troop would not suffer by the changes recommended. When we consider the new semi-automatic rifle we find that the comparative value of the light machine gun has been considerably decreased. We would probably be near the truth if we assume that the fire power of two of the new rifles is equivalent to that of three of the old. If so, the comparative value of the light machine gun has been reduced one third. The fire power of the Light Machine Gun Platoon is equivalent to that of twenty of the new rifles.

On this basis an interesting comparison of the fire power of three different troops, stated in terms of the Springfield rifle, can be made.

The present troop, armed with the Springfield rifle and the light machine gun, has a fire power of forty-five rifles and six light machine guns. The total fire power may be represented by seventy-five Springfields.

The present troop, when armed with the semi-automatic rifle and the light machine gun, will have a fire power equivalent to that of ninety-eight Springfields.

The proposed troop, equipped with semi-automatic rifles only, would have a fire power equivalent to that of one hundred and eight Springfields.

Need I say anything more about fire power?

It is true that there would be no weapon in the Troop or Squadron for mid-range fire support. This support should be furnished by the Regimental Machine Gun Troop which is equipped with a real machine gun.

The next question to be settled is this: How does the strength of the proposed troop compare with that of the present?

The following table answers the question in full:

	Present Organization	*Proposed Organization*	*Decrease*	*Increase*
Officers	5	4	1	
1st Sergeant	1	1		
Sergeants	11	9	2	
Corporals	12	9	3	
Privates, 1st Class and Privates	103	117		14
Total Enlisted Men	127	136		9
Horses	149	148	1	

One lieutenant must be eliminated; five non-commissioned officers absorbed; nine privates added; one horse disposed of; the light machine guns scrapped; and the Springfield rifles replaced by semi-automatics. No other changes are necessary.

The Rifle Troop, thus reorganized, would be much easier to control, much more efficient in reconnaissance, counter-reconnaissance, and security missions, and much stronger in battle. The Squadron would be a really powerful combat unit. The Regiment, consisting of three of these powerful Squadrons, supported by heavy machine guns, anti-tank weapons, mortars, and scout cars, and equipped with modern communications, and transportation, would be better fitted for all Cavalry missions than anything we know today.

Reflections on Famous Rides

By CAPTAIN WAYNE O. KESTER, *V.C.*

The Chief of Cavalry states in the last Journal that horse cavalry has great strategic mobility when transported by train or motor and that *it can move under its own power by forced marches 150 miles in forty-eight hours or 100 miles in twenty-four hours.*

Accustomed as we are to the conservative marching of peace time maneuvering, General Herr reminds us of a fact frequently forgotten. A little delving into the past shows that such marching, though not easy for large units, was not unusual long before our modern equipment and methods were developed. In fact these marks have been far surpassed by Cavalrymen both in campaigns and in endurance contests.

Two years ago on March 6 and 7, 1937, the Eighth Cavalry under the guidance of Colonel Innis P. Swift gained considerable valuable first hand knowledge of horsemanship and equine endurance when eighteen officers of that regiment engaged in a 150-mile horse race.* It was believed by some that the ride would most certainly ruin many of the horses. Not only were none ruined but none were permanently injured and all are doing regular duty today. However, it is believed that in tests of endurance as in any strenuous equestrian event more horses are injured by the manner in which they are handled in the hours prior to and immediately following the contest than by the contest itself.

That no horse race ends at the finish line is an axiom well proven. At some time during this ride at least three horses reached a state of complete exhaustion. Five others were exhausted to a point where a weak trot was their fastest action. Every horse was carefully handled and given every indicated medical aid and treatment until entirely back to normal. This took a few days for some individuals. New swellings, sore spots, filled joints, and other disturbances were putting in their first appearance as much as three days after the contest.

From a check on the veterinary sick report for the past two years it would appear that none of these horses suffered for their experience. Their record is about the same as that of any eighteen animals of similar age and duty. About the usual per cent have been on sick report for minor conditions. Only three have been treated for serious ailments.

"Highlander" lost over two months' time shortly after the ride with a low splint. This splint was well developed several months before the ride but had caused no lameness. His rider was aware of this unsoundness but liked the horse very much and decided to use him. The splint caused no trouble until a few days following the ride and there is no record of it having caused any trouble since that attack.

"Rojo" suffered an attack of acute tendonitis in the right front leg seven weeks after the ride. It is possible that the 150 miles was a contributing factor but hardly probable. He was never extended, made slowest time in the race and always appeared in excellent condition. It is possible that his condition was aggravated by other causes. He is not a light horse for his bone and started out rather rapidly soon after the ride on what appeared might be an unusual jumping career. About a year later he developed sesamoiditis in the same leg. There is no record of his having suffered any permanent injury from either condition. He is still doing full duty.

"Big Boy" developed tenosynovitis in both front digital

*Reported in the Veterinary Bulletin, October, 1937, and CAVALRY JOURNAL for March and April, 1937.

sheaths and a splint on the right fore seven weeks following the ride. He also had been doing some jumping. A rather large, heavy boned horse, with little spring in his trot, he pounds the ground considerably. This fellow did the first 83 miles at the rate of 9.6 miles per hour. Later on he fell out and was transported in to Fort Bliss by truck. At the point where he fell out there were no rest bandages available consequently his legs had filled some when cold packed several hours later. The ride may or may not have been a contributing factor to his troubles but he as well as the others have continued to do regular duty.

All eighteen horses participated in the 1938 Provisional Cavalry Division Maneuvers which involved continual field exercises and a road march of 373 miles. Some have appeared in horse shows and that old campaigner "Sotol," now fourteen, emerged from the 1938 Annual Show as Reserve Champion Jumper of the 1st Cavalry Division after winning the Fault or Disobedience and Out and placing in other classes.

The 8th Cavalry ride while entirely different, compares very favorably with other well known rides. It was not a super-performance by professionals. It was just a good ride by young inexperienced contestants on untried troop horses. Every contestant unknowingly made many mistakes that would have been avoided by more experienced hands. However, the only way to really learn the art of conditioning troop mounts and conducting them on long marches is by so doing. Conclusions drawn from this contest were similar in many respects to those of endurance tests and famous rides of other years.

Colonel L. A. Merillat and Colonel D. M. Campbell record some interesting feats of equine endurance in "Veterinary Military History." An account is given of Captain A. E. Wood of the 4th Cavalry who, in September 1880, with eight men rode 140 miles in 31 hours in pursuit of a deserter at Fort Reno Indian Territory (whether or not he was apprehended is not stated).

Four men of Company H, 1st Cavalry the same year carried dispatches from Fort Harney to Fort Warner, 140 miles in 22 hours over a bad road. The horses were in good condition at the end of the ride after one day's rest made the return trip at 60 miles a day.

In 1879 several single couriers of General Wesley Merritt's command rode from Thornburg's rat hole to join the main column, 170 miles in less than 24 hours.

Colonel Richard I. Dodge tells of an express rider in Texas who carried mail from El Paso to Chihauhau, a distance of 300 miles with a weight of 200 pounds. Traveling by night 100 miles at a stretch and resting four days between trips he used the same pony continuously for six months.

Colonel Kearny with four companies of the First Dragoons in 1843 marched 2,000 miles in less than 100 days, horses foraging entirely on wild grass.

The 2,000 mile trek of the Eighth Cavalry from Texas to Dakota in 1888 in three months was far from slow time considering conditions.

The Seventh Cavalry on General Custer's last march covered 35 miles on June 23rd, 45 miles on the 24th before the afternoon halt to which a slow ten miles more was added that night over none too pleasant terrain. Then after a brief rest in the wee hours of the morning without unsaddling that memorable 23-mile advance on the battlefield was begun.

Colonel S. F. Dallam in the CAVALRY JOURNAL July, 1927 states that the 3rd Squadron of the 7th Cavalry on the Punitive Expedition of 1916 marched 200 miles the first five days with horses that were soft. Marching fourteen of the first sixteen days in the field they covered 436 difficult miles under trying conditions, winding up with a prolonged 55 mile day and night march which terminated in the engagement at Guerrero. The animals had subsisted on scant rations of mostly native hard corn and corn stalks. Considerable loss was suffered before supplies and replacements caught up with them.

The amazing endurance of Mongolian ponies was related by Lieutenant F. B. Butler, C. of E. (CAVALRY JOURNAL, July, 1926) on his return from duty there a few years ago. The ponies used stood less than 12 hands and usually weighed around 600 pounds. Pack ponies frequently carried as much as 200 pounds. It was customary for the Mongols to water only once a day. On some marches the ponies often went 36 hours without water.

He relates one instance of a Mongol messenger who after bringing his two ponies in ten miles from a spring made a 130 mile round trip riding and leading alternate mounts in 54 hours including night rests. Upon completion of his errand the ponies were returned the ten miles to the spring, really a 150 mile trip. The ponies had always subsisted on poor grazing and were allowed no other feed on the trip.

"Crabbet," that outstanding Arab gelding in his winning Eastern Endurance Ride carried 245 pounds 300 miles from Red Bank, N. J. to Washington, D. C. in five consecutive days. His best day was 61.8 miles in 8 hours 7 minutes. He stood 15:2, weighed 970 and incidentally was the only gelding to win any of eight Eastern rides.

"Peggy," that little wonder mare of the 3rd Cavalry won the 1924 and 1925 Eastern rides and placed 4th in the 1926 test. Her elapsed time for the 300 miles in 1924 was 45 hours 13 minutes. She was 11 years old, stood 15:2½, weighed 1000 pounds. She had a prior sick record worth noting. All four feet were contracted, front tendons thickened, front fetlocks enlarged, both hind ankles cocked yet she finished with the highest score for condition. She was one of the few entries gifted with a straight gait and true action and could walk five miles per hour.

"Pathfinder" was another great horse in the Eastern Endurance Rides. He placed in the money five different years during which time he was also an outstanding performer on the U. S. Olympic team in France.

Another good performance was that of "Dolamite" who covered 55.5 miles in 5 hours flat in the 1922 Night Ride at Fort Riley with Captain C. H. Gerhardt up.

Some interesting comments were forthcoming from various rides. Most of the good performers were horses of medium size. A horse that stood about 15:2, weighed about 1,000 pounds with sturdy conformation, great lung capacity, short back, powerful forearms and quarters, strong bone, sound and with natural ability to travel straight and squarely on all four legs and preferably of Thorobred extraction seemed to be the most desirable type for endurance.

Small horses, particularly the Arab, were the most economical in feed consumption for the number of pounds carried per mile. They remained in equally good condition with larger horses but were somewhat slower.

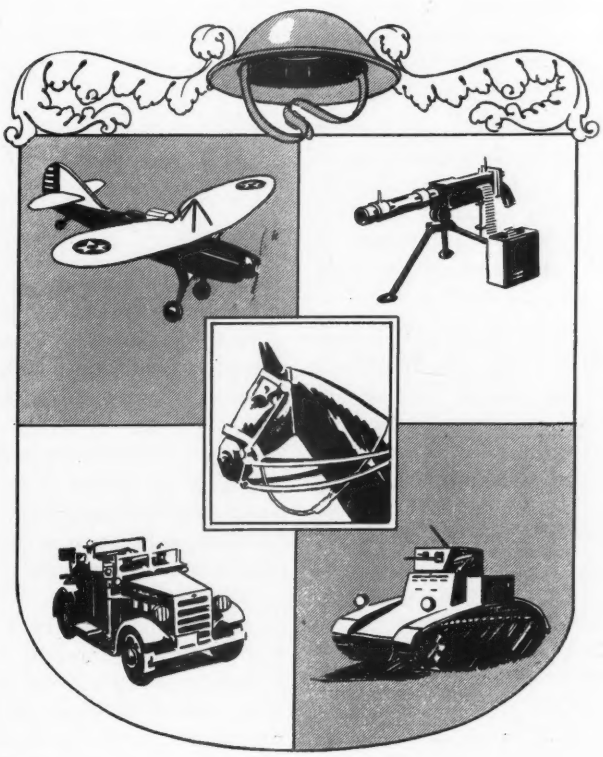
Large horses were not favored because it was felt that they had too much of their own weight to carry. It would be interesting to know if the same conclusions still hold true after the past 15 years of improved horse breeding.

It was demonstrated that many horses which one might hesitate to send out on a forced march can when *properly cared for* travel 300 miles in five days with a load of 200 to 225 pounds or 100 to 150 miles in 24 hours and still be fit to carry on after a day's rest. "Peggy" in the Eastern Endurance Rides is an outstanding example. Several of the horses in the 8th Cavalry ride were average troop mounts, far from being the best in the Regiment, and some could have been in better condition, yet 150 miles in 24 hours on good footing would not have been too much for any of them.

In most contests there were horses that appeared to be very ordinary and not good selections for endurance tests. Many of them came through with quite satisfactory scores.

After the 1926 Colorado Ride, Captain H. N. Beeman, V. C. observed that it was indeed a wonderful lesson to know that in such a motly array of horses 86% of the starters could stand the grueling 300 mile test. Type, gait, breeding, and soundness was so varied that no other conclusions could be drawn.

The old maxim that an ordinary horse well conditioned will outlast a really good horse not in good condition and an inferior horse properly handled will frequently surpass a superior horse improperly handled has been proven in every contest.



Massed Cavalry

One is struck when reading discussions on cavalry from various angles, both American and foreign, with the emphasis given to the factor of reconnaissance in the employment of cavalry. This peculiarity is more common among lay writers and authors of other arms and services than is found in the observations of cavalrymen themselves. Likewise, the tendency to emphasize reconnaissance and the employment of cavalry in small units is particularly noticeable in many foreign publications. On the other hand, it may be significant that most comments originating in Poland and Russia, together with those of American cavalrymen, appear to dwell more upon the combat value of the arm, particularly in any discussion involving large elements of cavalry. The term "significant" is used premeditatively, as it is in these three countries that large open areas abound with limited communication facilities.

Many of the commentators who stress the employment of cavalry in small units are in reality visualizing only the use of mounted scouts or mounted infantry. Webster adequately explains cavalry in the following definition:

> Cavalry is that part of a military force which serves on horseback and, while it may be dismounted to fight in an emergency, is normally used so as to realize the advantages of the horse's mobility in maneuvering and impetus in charging—distinguished from mounted infantry which uses the horse almost wholly for rapid transportation.

Although the term "mounted on horseback" is used in the dictionary, it is realized that that term implies the use of the horse for purposes of combat. The modern combat car and scout car fulfill the conditions of the term. It has been the presence of massed cavalry on battlefields of the past, prepared to participate in the main battle, that has turned the tide of success on more than one occasion. The presence of massed cavalry on future battlefields will fulfill the same purpose.

Hemisphere Defense

A new and accepted American principle of national defense is incorporated in the term "hemisphere defense." Such a phrase manifestly includes terrain from Hudson Bay to the Tierra del Fuego. It is known to every individual of average interest in geographical affairs that the major portion of such terrain is more adaptable to the man on foot or horseback than to the motor vehicle. At once, one admits that the principal barriers to this domain rest in the Atlantic and Pacific oceans. However, when foreign penetration succeeds in establishing areas of dominance in this region, particularly in the south, it will not be through visible advance in force across these barriers. It will be accomplished by surreptitious penetration of individuals, arms and supplies for future assembly and concentration.

The June issue of *Adventure Magazine* contains a highly interesting and provocative narrative by Arid White entitled, "Attack on America." Although written in the realm of fiction, this first of four installments incorporates many thought-provoking facts under conditions visualized by that author. General control of such a situation might be accomplished by sea and air power, but to effect absolute control the need of ground forces would be imperative. In this vast area the potential effectiveness of cavalry as a part of that force is apparent.

Cavalry Unity

The past nine years have marked a progressive effectiveness in cavalry affairs. Cavalry packs have reached a high plane of dependable efficiency. The old escort wagon of the field train has surrendered to more effective automotive transportation through the proven trustworthiness of the truck. The cavalry mount annually becomes more streamlined and endurable through better blood. The effectiveness of improved horsemanship is evident. Modern automotive engineering has donated perhaps our greatest advance in the creation of mechanized cavalry.

During this period of growing pains there has been active interest in the merits of the new vs. the old. Experiments and maneuvers have been conducted to test the efficiency and effectiveness of one vs. the other, one with the other, each alone, etc. Now at the beginning of a new decade it would appear evident to all that each and every type of our new means of matériel and organization has settled into its own groove of proven reliability and purpose. Instead of odious comparisons one might suggest that the time has arrived for unity of interest and the spirit of interdependence from which in the near future a vastly improved team might emerge with all of the merits of the old strengthened and toned by the new.

Memberships

For the past several years a number of regiments in the National Guard and the Cavalry Reserve have found it expedient to make a drive for members in the Cavalry Association during active field training. Not only are association memberships renewed in these regiments but, through bulk collection of dues while in camp, the interests of the association have been augmented by eliminating the necessity and consequent cost of individual billing. It is hoped that a large number of regiments may feel disposed to solidify their interest and membership in the association during the coming summer by applying collections in camp to cover individual dues and forwarding same to the Secretary, as a bulk, payment for members of the organization concerned.

Honor Roll

The following organizations occupy a place on the Honor Roll by maintaining 100% membership in the Cavalry Association:

National Guard:

103rd Cavalry
104th Cavalry
112th Cavalry
113th Cavalry
114th Cavalry

Cavalry Reserves:

308th Cavalry (61% membership, highest in that component).

The Future of American Cavalry

It is with a sense of pride that The CAVALRY JOURNAL presents in this issue a discussion of the days ahead for American Cavalry by a nationally known military writer, Major George Fielding Eliot. Major Eliot brings to light factors in American defense policy which warrant not only the attention of cavalrymen but of the army as a whole, including particularly those who may be charged with the preparation of planning and the execution of those plans.

☆ ☆ ☆

The United States Cavalry Association

Organized November 9, 1885

The aim and purpose of the Association shall be to disseminate knowledge of the military art and science, to promote the professional improvement of its members, and to preserve and foster the spirit, the traditions, and the solidarity of the Cavalry of the Army of the United States.—Article III of the Constitution.

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☆

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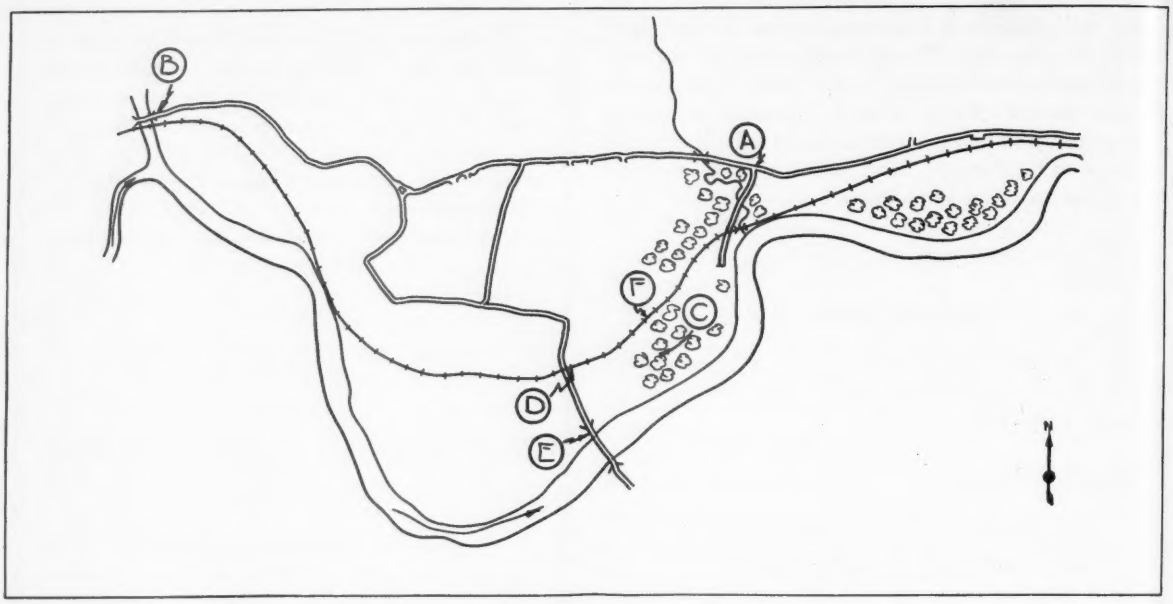
NOTES from the CHIEF of CAVALRY



What Would You Do?

(EDITOR'S NOTE: The following letter from Lieutenant "Napoleon" Slinkovitch is of no importance except for his postscript. This will probably be received with joy by many of our readers.)

"Dear Ed:

"Am attaching hereto a sketch and scenario of a little problem that happened in maneuvers yesterday. It brings out very forcibly the qualifications of quick thinking and prompt action so necessary in cavalry action.

"Yours,
SLINKOVITCH.

"P.S.: You will feel badly to know that this is my last literary opus. I got a letter yesterday from an automobile manufacturer stating that if I was a good enough salesman to sell my literary efforts to you, I could sell second-hand tractors in the swamps of Brazil. So I am taking up his offer. So long. "N. S."

The regiment was marching west in enemy territory and had halted at "A." At this point I received instructions to move my platoon (with a squad of light machine guns attached) via routes south of the railroad to the vicinity of the bridge at "E" and protect the south (left) flank of the regiment until the tail of the column had cleared the bridge at "B," where I was to rejoin.

I moved the platoon south along the road from "A," crossed under the railroad (which I observed ran on an embankment as far as "D") and thence into the woods. I was preceded by a covering detachment of one-half a rifle squad. As the covering force arrived at the western edge of the woods at "C," it signaled "enemy in sight" and halted. I galloped up to them and observed two Red cavalrymen moving north at the railroad embankment at "D" and two more moving toward the woods where I was hidden. At the same time I observed about two squads of Red cavalry emerging from cover at the north end of the bridge at "E" and moving north.

The rest of my platoon had halted in column of twos about 25 yards to my rear and I was joined by my platoon sergeant. The two Red troopers coming toward me started to trot.

This was no terrain exercise or map problem to be turned in in fifteen minutes. It was a decision and the issuance of orders to be accomplished in a matter of seconds.

WHAT WOULD YOU DO?

(For solution, see page 255)

Chief of Cavalry's Question

Is the quantity and quality of forage at your post satisfactory? If not, what changes should be made?

General Hawkins' Notes

A Royal Road to Learning

It has been said that there is no royal road to learning. One who wishes to keep up with an art, or science, or profession, cannot escape the necessity of serious reading for at least a few hours every month.

The more one reads and studies about his favorite subject the more interesting it becomes. And, having found that it is not drudgery to settle down to a little serious reading for a short hour, one gradually learns that serious thinking and a little quiet reflection becomes a pleasure that no light reading of novels and immaterial magazine stories can give in the same measure. The cudgelling of one's brains, so painful to the young man who has not acquired the habit of thoughtful reading and a little intensive thinking, becomes no longer necessary. Thought comes more easily with habit, and creative imagination begins to develop. Such a mind does not become bored because it always possesses the resource of interesting thought.

What was once a dry and tiring study becomes a genuine pleasure, especially if the subject is one about which information and ideas are necessary or desirable to the person concerned. Although, generally speaking, this is no royal road to learning, the road becomes royal to one who follows it faithfully.

It is with these thoughts that recently I have been reading over my copy of the book *Cavalry Combat*. Every professional soldier who is young enough to wish for information on the subject of the military art should want to know something about how cavalry is used and about the details of cavalry action. Many persons want someone to tell them, in order to spare themselves the pain of thoughtful reading.

But, as I have explained, the habit of thoughtful reading makes it a pleasure.

And so, for those who wish to cultivate this habit and, at the same time, learn something of the rôle of cavalry and how it carries out this rôle, nothing could afford an easier or better start than the reading of *Cavalry Combat*. This book should be fascinating to any one who has the mind and imagination of a good soldier. It should not be read through in one reading like a novel. It is rather a book of reference. But a book of reference is of no value unless it is read. This book should be picked up and a chapter read from time to time—then reread. The more one reads such a book the more interesting he finds it. Then he can always refer to it when thinking, reading or writing on cavalry subjects. It is not a dry text book on abstract subjects, but a thrilling account of cavalry in campaign and battle.

Thus, by reading such living accounts, the rôles of cavalry become gradually apparent to the reader. One does not have to memorize a cold, dry list of the rôles of cavalry. They become fixed in the mind by participating in one's mind in the actions told about in a narrative like *Cavalry Combat*.

This is not intended as an advertisement for the book *Cavalry Combat*. It is simply a statement that an officer has not learned the joy of living until he has become enthusiastic about the acquiring of professional knowledge. And, not only for the cavalry officer, but for every officer who wants to know something about every branch of the service, this book of narratives is an easy and delightful way to learn something about the Cavalry.

What Would You Do?

A Solution

"Sergeant A, 2d and 3d squads as foragers, column of squads at 100 yards distance, pistol attack.

"Light-machine-gun squad fire from northwest edge of these woods at railroad embankment at 'F' (pointing).

"I will follow with covering force and rest of 1st Squad to cut them off from the bridge.

"Any questions? Move out at once."

NOTES from the CAVALRY BOARD

"The Cavalry Board invites any individual, whether or not a cavalryman, to submit for consideration constructive suggestions or ideas relating to new equipment, improvement of standard equipment, or to any problem or project under study by the Board. The Board will also welcome suggestions as to new problems that may properly be considered. Communications should be addressed to the Director, Cavalry Board, Fort Riley, Kansas."

During the past few months the Cavalry Board has completed the following studies or tests:

Audible Signal Device for Vehicles: Various types of horns, sirens, klaxons, and exhaust whistles have been tested to obtain a satisfactory audible signal device for vehicles for use as a warning signal and also as a means of communication. No single instrument was found that could serve both purposes. The most satisfactory is a combination of two, the horn for traffic signal and means of communication and the exhaust whistle as a long-range signal to warn against attack by aircraft, mechanization and similar signals.

Guidon Staff: The issue guidon staff is 7 feet in length and permits the guidon, when used mounted, to flap across the face of the guidon sergeant. Some units have been using the 9 ft. 6 in. staff which is intended for colors and standards. This latter staff is heavy, difficult to carry, and is disproportionate in appearance with the guidon. The Cavalry Board has recommended that the staff for guidons of mounted organizations be 8 feet in length.

Vehicular Compasses: All types of magnetic compasses which have been used with armored vehicles have been found to be so inaccurate as to prevent their use in military vehicles. It is believed the only compass which has promise of reliable accuracy is one employing the gyroscopic principle. Efforts are being made to obtain a gyrocompass for use in armored vehicles.

Stereoscope: A portable stereoscope was tested by the Cavalry Board, members of the Academic Division and by selected personnel of the 2d Cavalry. It was found very satisfactory for reading photographs up to 12 inches square. The stereoscope weighs only 5 pounds and for transporting is folded in a case 8″ x 7″ x 2″. It was recommended for issue to headquarters of regiments and larger units.

Blank Firing Attachment for Machine Gun, Caliber .50 (HB) M2: The test of these devices has been completed and report submitted. Inasmuch as the normal method of fire with this weapon is single shot fire, it was recommended that only a feed way filler piece be employed for firing blank ammunition. This requires that the gun be loaded after each shot is fired by pulling the bolt handle to the rear manually. The filler piece causes the cartridge to enter the feed way in the proper position to be grasped by the extractor and also prevents ball cartridges being loaded into the chamber.

Tests or studies received by the Cavalry Board since the last issue of the JOURNAL and now under consideration include:

Legging Top Boots: In an attempt to furnish the mounted soldier with a satisfactory riding boot, the Quartermaster Corps has examined many sample boots submitted by manufacturers. Two of the most promising types have been selected for test and will soon be issued to Troop B, 2d Cavalry, in lieu of the present issue boot.

Cover Latch Group Assembly: The Cavalry Board is testing a new design of cover latch for Browning machine gun, caliber .30, furnished by the Ordnance Department. The new latch is designed to provide more positive locking than those now in use. It is hoped to eliminate stoppages resulting from accidental opening of the cover during firing.

Antiaircraft Machine Gun Marksmanship: The Cavalry Board is arranging to test an antiaircraft machine

gun course, which was recently prepared by the Department of Experiment, The Infantry School and The Infantry Board. It is planned to have the Machine Gun Troop, 2d Cavalry, fire the course as prescribed after preliminary instruction.

Small Bore Practice in Caliber .50 Machine Gun Training: In connection with caliber .50 machine gun training the board is investigating means of adapting sights and trigger arrangements to the light machine gun and the machine gun, caliber .22 for small bore practice. Also the practicability of operating these weapons on the caliber .50 mount. During the past two years the Department of Weapons and Matériel, Cavalry School, has been using these adaptations which were developed in the department, with excellent results.

Light Reconnaissance Vehicle: The Cavalry Board has completed the modification of a Marmon-Herrington (Ford) 4 wheel drive, ½-ton truck into a light unarmored reconnaissance vehicle with the characteristics mentioned in the previous issue of the CAVALRY JOURNAL. The car is now being used in the spring maneuvers of the Cavalry School. Pictures are inclosed herewith.

Support from the Field

HEADQUARTERS, – — – CAVALRY

May 22, 1939.

MEMORANDUM: FOR ALL OFFICERS.

1. This regiment has always boasted of having 100% membership in the Cavalry Association, and up to include March, 1938, we had our 100%. However, since that date, at my own request, I have been informed by the Secretary of the Association that several officers of this regiment has been dropped from the rolls for non-payment of dues.

2. The status of the regiment to date is as follows:

a. All officers are active members except as noted below:

CANCELLED

One 2d Lieutenant, cancelled 4-26-38, owing one year's dues.

One Captain, cancelled 12-7-38, at his own request, owing six months' dues.

One Captain, cancelled 7-25-38, owing one year's dues.

One 2d Lieutenant, cancelled 7-25-38, owing one year's dues.

One Warrant Officer, cancelled 1-24-39, at his own request, owing six months' dues.

3. It is my ardent wish that every officer in this regiment be an active paid-up member of the Cavalry Association, and those officers, who have been dropped for non-payment of dues, renew their subscriptions and pay their back dues, in order that the —— Cavalry may regain its 100% membership in the Association.

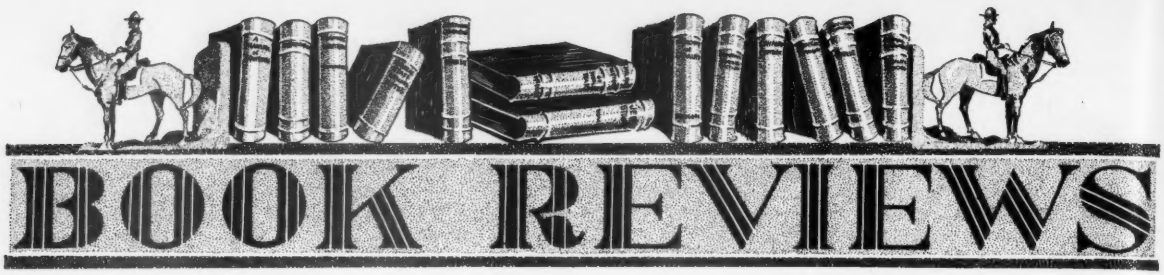
4. I cannot express too strongly how I feel regarding this matter. It is my belief, that every cavalryman should be an active member of the Cavalry Association and read the CAVALRY JOURNAL. This excellent bi-monthly periodical always contains much valuable instruction and enables cavalry officers to keep abreast of the times. This is especially important for officers of the Guard.

5. It is contemplated publishing in the near future, in the CAVALRY JOURNAL, a list of the regiments of Cavalry having 100% membership in the Association, and I certainly desire that this regiment be on that honor roll.

DISTRIBUTION: All Officers.

— — ————————,

Colonel, – — – Cavalry, Commd'g.



MEIN KAMPF. By Adolph Hitler. The complete unabridged and unauthorized edition. Stackpole Sons. 669 pages. $3.00.

No book of modern times has played a more vital part in the current history of mankind than has *Mein Kampf*. Although written in 1923, it continues to serve as a compass to the aims and aspirations of Adolph Hitler and with him, the German people. Its importance and potential meaning in international affairs have been recently emphasized in the publication of three separate and distinct translations of the work in the English language. The third publication, which is discussed here, is believed to adhere more strictly to original text than any heretofore published. Although "Der Fuehrer" for thirteen years has successfully prevented the publication of an uncensored, unabridged edition of the original *Mein Kampf* outside of Germany, that censorship ends with this work, and as Dorothy Thompson says, "Hitler's blue print of world conquest" is at last available to all readers.

The very fact that Germany's new line of conquest in Europe has followed to the letter the principles of *Mein Kampf,* makes it imperative that every intelligent man or woman interested in international affairs read this work. The key to the future aims and aspirations of Adolph Hitler and his Nazi empire is contained herein.

Of the three copies of *Mein Kampf* published in this country it appears to this reviewer that the Stackpole edition is by far the smoothest reading and the most complete of any that have been produced. The translator seems not only to have given the real gist of the original text but has done so in smooth and readable English.

The contents and general purposes of *Mein Kampf* are too well known to amplify here. Due to the length and extreme variety of the subjects covered in the original volume it is not believed that any review can adequately cover the many important purposes of this work. To appreciate the character of Adolph Hitler and the fundamental structure of Nazism it is necessary for one to read the complete work.

* * *

INFANTRY IN BATTLE. Second Edition. Prepared by the Military History and Publications Section of The Infantry School. The INFANTRY JOURNAL. 422 pages. $3.00.

Although published as a second edition, this book is not merely a reprint but rather an extensive revision. Many of the sections have been completely re-written, much of the tactical doctrine re-stated, and improved maps substituted for those of the first edition.

Infantry in Battle is not intended as a great strategical study, but more importantly is intended as material for the combat officer. Every page abounds with actual operations and engagements in which tactical errors are analyzed and each type of action covered by a series of examples; each of which is followed by able and interesting discussions bringing out errors committed, reasons for success or failure, and evidence of violation of or adherence to sound military principles.

A glance through the pages of this book produces such material as the following excerpts.

"A good order must meet three minimum requirements. (1) It must cover the essentials; (2) it must be unmistakably clear to the subordinates who must carry it out; (3) it must be issued early enough to reach subordinates in time for them to execute it.

"It is not likely that infantry leaders will ever find an adequate substitute for the infantry patrol. . . . Usually it is a question of under-patrolling. In this connection the old saying is a good guide: When it is apparent from the situation that patrolling is unnecessary, send out patrols anyway."

One could go on *ad infinitum* in plucking such plums for military digestion from the pages of this book. To one who aspires to combat leadership of American soldiers this volume is unreservedly recommended.

* * *

AMERICAN ARMIES AND BATTLEFIELDS IN EUROPE. Prepared by the American Battle Monuments Commission. Government Printing Office, 1938. 547 pages. 561 photographs. 120 maps. $2.75.

American Armies and Battlefields in Europe has been compiled and prepared by The Battle Monuments Commission as a dedication to the services and accomplishments of the American Armies in the World War. Although primarily intended as a guide to the American battlefields in Europe it can be said that in the presentation of this volume this motive becomes secondary in importance. Primarily, the volume furnishes an excellent condensed history of America's participation in the World War. It covers in very satisfactory style not only the diplomatic background which prompted our entry into the war but affords also a very succinct discussion of the broader military features. It contains as well a considerable amount of statistical information of value to any student of those times.

In reality, this book constitutes a review and elabora-

tion of *Guide to the American Battlefields in Europe* which was published by the American Battle Monuments Commission in 1927, twenty thousand copies of which were printed and the entire supply exhausted within nine months after publication.

The book itself is a splendid example of the bookmaker's art. Ordinarily, one might expect a book of this nature to fall into the $10.00 to $15.00 price range.

From the point of view of the military student it is of outstanding value as research material in any library.

* * *

OUR MAGINOT LINE: The Defense of the Americas. By Livingston Hartley. Carrick and Evans. 315 pages. Maps. $2.75.

Mr. Hartley, a former official of the United States Department of State with service in South America, has produced a thought provoking study predicated upon a post-Munich world. In that world the totalitarian states, or have-not powers, are pictured as growing increasingly stronger; while the democracies are shown ever more on the defensive. In reaching out for those raw materials essential to our highly developed industrial civilization, the author depicts the spearhead of the totalitarian attack as falling upon the largest of these reserves—South America. Appreciable control in that area would have portentous influence upon the welfare of the United States.

Although our primary interests rest with the democracies of the world, America should conclude that its own Maginot Line incorporates the Western Hemisphere; that the main barriers lie in the two great oceans on each side of this area. The author discusses the threat of Japanese aggression via the islands of the South Pacific but emphasizes the fact that the main barrier should rest in the Atlantic. The threat of German penetration into our sphere of interest is such as to dictate a very close understanding with Great Britain. Our traditional bulwark incorporated in the British Navy is seriously threatened, according to the pages of this book. Fascist Spain, together with Italy, furnishes Germany with the geographical facilities necessary to expedite her expansion. The author feels that although the British fleet may not disappear, its potency is in danger of becoming nullified by superior geographical bases of operation. Mr. Hartley concludes, therefore, that the American people should foresee this oncoming danger and prepare to defend this new Maginot Line if we are to prevent serious inroads on our own preserves.

Although this book presents a rather gloomy outlook toward the future welfare of democracies in the world and possibility of foreign invasion in this hemisphere, it is possible that the author overlooks many fundamental features of the situation. There is a rather somber conclusion that as days of conflict approach all movements and preparations of the democracies would be handled in confused and vascillating style, while the operations of the dictatorships would automatically function with proverbial Prussian efficiency and steam-roller results. One must

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ponder on the distorted reasoning which appears to have taken hold of popular fancy during the past few years in the assumption that a cold and heartless aggressor will be able to overrun all obstacles, while the meek sit with folded hands during the havoc and destruction of their possessions. It is another version of the same old story of air invasions obliterating the sky-scrapers of New York, the answer to which is, "What will the American naval, air and antiaircraft forces be doing the while?"

* * *

SECRET AND URGENT. By Fletcher Pratt. Bobbs Merrill, New York. 282 pages. Indexed. $3.75.

Reviewed by Lieutenant Colonel John J. Bohn, 9th Cavalry, Chief of the Department of General Instruction and Publications, The Cavalry School, Fort Riley, Kansas.

Fletcher Pratt's unique volume tells the story of Codes and Ciphers and their relation to the events of history. The author has an established reputation as a military historian. His hobby for many years has been the making and breaking of codes and ciphers. By a combination of these specialities, he has given us the only book in English on this subject to date.

Mr. Pratt definitely shows the necessity for the use of codes and ciphers for diplomatic, military and commercial purposes. Historical examples of failures to use practical codes and ciphers for important messages and the effects on history of such failures are convincingly presented. Also, the fact that modern means of communication are anything but secret and confidential is made distressingly clear. The great economy in time and cost made possible by modern codes for diplomatic, military and commercial purposes are also demonstrated.

This volume gives examples of many types of ciphers, together with the methods used in breaking them. As Mr. Pratt points out, the dictionary type of code meets the needs of high command, commercial and diplomatic usage. Such a code, however, is impractical for communication in the smaller units. A field cipher designed to cover requirements for tactical communications "must be simple enough to be readily understood by and quickly taught to inexperienced men; it must minimize error through ease of operation; it must not require the use of special apparatus, the capture of a piece of which would betray the secret of the cipher; it must be capable of holding its secret for as long as it took to execute an order written in it even if the enemy received the message at the same time as the person for whom it was destined."

The military man who reads this book will be deeply impressed with the modern need for a practical field cipher. The efforts of the greatest general and the decision of the best tactician are so easily nullified by lack of secrecy in communications.

The Army as a whole should study this book in order to achieve a sympathetic understanding of the problems presented by the necessity for secrecy in communications.

A HORSEMAN'S HANDBOOK ON PRACTICAL BREEDING. By Colonel John F. Wall, U.S.A. (Retired). Thoroughbred Bloodlines, Myrtle Beach, South Carolina, 1939. 308 pages. Illustrated.

Reviewed by Captain Clarence W. Bennett, 9th Cavalry, Instructor Department of Horsemanship, The Cavalry School, Fort Riley, Kansas.

"*A Horseman's Handbook on Practical Breeding* is intended as a digest of some opinions and practices of experienced breeders of horses, and is prompted by a desire to encourage and assist individuals who have little opportunity to observe practical breeding of horses, the handling, the care and the feeding of breeding stock." In the foregoing sentence, Colonel Wall justifies his publication. However, it needs no justification as this is a work which will appeal to horsemen everywhere.

The book opens with a brief history of the horse in general and continues with the breeds of the horse today, the light breeds. Next, he devotes a chapter to the heavy or draft horse. All of this introduction is written in an extremely interesting fashion. Having given after this a brief history of the horse situation in the United States, he devotes the remainder of the book to practical breeding.

Colonel Wall does not attempt to use only his own experience and knowledge of breeding as a basis, although this is quite extensive, but brings in extracts from the writings of the most famous horsemen and breeders in the United States. Every example and quotation which he uses has been chosen most appropriately from the very best authorities.

The horseman or student of horsemanship will find everything which he wishes to know about actual mating and raising foals included in the book. The chapters devoted to "The Acquisition of a Horse Farm" and "Buildings" will prove especially interesting to every one in the Army who has dreamed of raising horses after retirement.

Colonel Wall's long association with the United States Remount Service is very much in evidence in the knowledge displayed concerning feeding, forage and the conformation requisites of good stallions and brood mares. Any veterinarian will be glad to endorse the opinions expressed by the author concerning veterinary care of mares and foals.

The book has been very well edited and the type is of a good size for reading. It would have been better if the quotations had been in larger type. However, the book is one which should prove a welcome addition to any horseman's or would-be horseman's library.

* * *

BOMBS BURSTING IN AIR. By George Fielding Eliot. Reynal and Hitchcock, Inc. 165 pages. $1.75. (Released June 1, 1939.)

To those who found perplexity in the problems which produced a "Munich" this book by the author of *The Ramparts We Watch* will prove of inestimable value and interest. Major Eliot, perhaps the nation's top-notch military critic, has once more gone into the field of international politics and fundamental military policies in an able manner.

The theme of *Bombs Bursting in Air* is actually "the influence of air power on international relations." The present influence of air power in this field is covered in the most analytical fashion. The future effect and influence which may be demonstrated by air power is not so thoroughly discussed nor does the purpose of the book require that it be so covered. A mere glance at the table of contents will perhaps afford the best picture of the purpose of this book:

Part I: Air Power in Europe
1. Some Fundamentals of War
2. The Qualities of Air Power
3. The Elements of Air Superiority
4. The Geographical Factor and Continuity
5. The Great Gamble—Germany vs. Britain
6. International Blackmail
7. Europe Under the Shadow of Wings

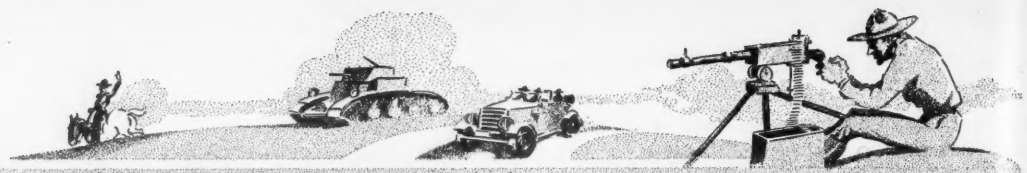
Part II: America's Interest in Air Power
8. America and the Air Weapon
9. Can America be Attacked from the Air?
10. Air Power in American Defense Problems.
11. How Much Air Power Do We Need?

This book, though brief, amply covers the subject and is replete with ideas of basic interest. Under the chapter devoted to "Some Fundamentals of War" one encounters the statement that "The history of civilized mankind shows us but three revolutionary military inventions or discoveries: discipline, gunpowder, and the airplane."

Again, in the discussion of European affairs, the reader is intrigued with such portions as this:

> Can Germany afford such a gamble, in which she throws on the gaming board all that her present rulers have gained, all the fruits of years of effort, in the hope of winning a military victory which even if won, may prove but fleeting and illusory in its benefits?
>
> Not, one would say, unless there is no other way to achieve German ends. Not unless a desperate Germany, driven to bay, has no option but to fight or to surrender.
>
> The masters of modern Germany are not fools.
>
> Why should they take the risks of war, and undergo the strains which it will impose upon their none-too-assured economic and social structure, while they have a better and safer method of achieving their objectives?
>
> That better and safer method they have discovered, and are at this moment using with great success. And of that method, their air power is the foundation and the source of strength.
>
> The method may be very briefly described by a short and unpleasant word—"Blackmail."

Considering the current state of affairs throughout the world and the significant part which air power is playing in the present world situation, this latest book from the pen of George Fielding Eliot is mandatory reading for all military students.



ORGANIZATION ACTIVITIES

1st Cavalry—Fort Knox, Ky.

COLONEL HENRY W. BAIRD, *Commanding*

During the past two months, the regiment has been engaged in target practice. In spite of frequent interruptions, we are progressing and hope to complete the courses in the allotted time.

Fort Knox has been host to many distinguished visitors since our last report. Brigadier General McNair, commandant of the Command and General Staff School, arrived on March 15th when the regiment participated in a mounted review in his honor. On April 5th, Troop "A," Captain John K. Sells commanding, acted as escort for the Chief of Air Corps, Major General Arnold. General Arnold's visit was followed by that of Major General Van Voorhis, the Corps Area Commander, who made his annual administrative and tactical inspection of the command. It was a source of great pride to all members of the First Cavalry that our former regimental commander stated that he had never seen the command in better condition. On April 20th, the Honorable A. J. Mays, Chairman of the Military Affairs Committee, reviewed the brigade. Finally, the Chief of Cavalry arrived for an extended contact visit.

The First Cavalry, and our sister organization, participated in all phases of training activities for General Herr. He became a familiar figure to all members of the command. His visit was an inspiration to the regiment and all ranks are appreciative of a Chief who takes such keen interest in the welfare of the mechanized brigade.

A large delegation from the regiment witnessed the annual running of the Kentucky Derby. From the interest displayed in the thoroughbred, it is apparent that the mechanized cavalryman has not lost his interest in the horse.

* * *

2d Cavalry—Fort Riley, Kansas

COLONEL H. D. CHAMBERLAIN, *Commanding*

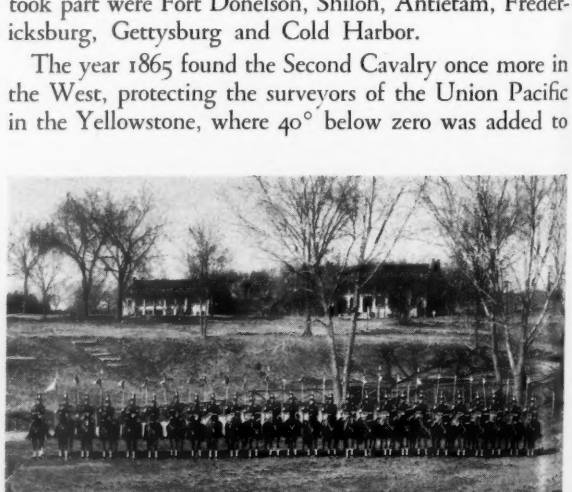
On the 23d day of May, 1836, the President of the United States, who was none other than Andrew Jackson, signed an Act of Congress creating a mounted regiment known as the Second Dragoons. That Act is living today in the Second Cavalry at Fort Riley. From the very day of its organization, it has been a "fighters' regiment."

Its first service was through the swamps and trackless wilderness of Florida, together with other units. Fighting through the Everglades, losing nine times as many men from sickness as from bullets, it finally captured the entire tribe of Seminoles and moved what was left of them to the Indian Territory. After such a start in swamps and fevers, the Second Dragoons was a hardened organization and quite ready for the Mexican War in 1846. The opening engagement took place at Brownsville, Texas, where a reconnaissance force under Captain Thornton was surrounded, killed, wounded, or taken prisoners. The regiment burned for revenge and on May 9th, a week later, eighty men under Captain Charles May, charged through a storm of shot from seven Mexican batteries at Resaca de la Palma, silencing the guns, capturing them, and also the Mexican General.

From 1846 to 1861, the Second Dragoons helped win the West; marching poorly equipped through the limitless plains, over burning deserts in summer and through mountain passes choked with snow, they guarded the wagon routes as Young America marched westward. One march was from Monterey, Mexico, to Los Angeles, California. Another was from Fort Leavenworth to Salt Lake City.

In 1861, the Second Dragoons were called from their campfires in the West to take part in the struggle in the East. The Second Dragoons now became the Second Cavalry, and twenty-three of their former officers wore general's stars. General John Buford and General Merritt, two distinguished leaders in the Civil War, were former captains in the Second Cavalry. Some of the better known engagements of the war in which the Second Cavalry took part were Fort Donelson, Shiloh, Antietam, Fredericksburg, Gettysburg and Cold Harbor.

The year 1865 found the Second Cavalry once more in the West, protecting the surveyors of the Union Pacific in the Yellowstone, where 40° below zero was added to



the Indian difficulties. Finally, from 1884 to 1890, they were stationed in the Pacific Northwest and some of their number, under Lieutenant H. T. Allen, afterwards Major General, U. S. Army, made explorations in Alaska which added materially to our knowledge of that territory and securely established the Second Cavalry as explorers of trackless wastes, which indeed they have been during the conquest of a continent.

Since its organization, the regiment has taken part in four wars against civilized nations, and has seen half a century of service against hostile Indian tribes. It has traveled around the world from Equator to the Arctic Circle. It fought with McClellan on the Chickahominy, charged with Sheridan in the Shenandoah, landed with Shafter in Cuba, went to France to face the Central Powers of Europe, and remains one of the bright spearheads of democracy. Come to see the Second Cavalry at Fort Riley—second to none.

3d Cavalry—Fort Myer, Virginia

COLONEL GEORGE S. PATTON, JR., *Commanding*

Following a most successful series of Exhibition Drills, the annual Pageant, "Hoofprints of 1939," produced for the benefit of the Post Recreation and Welfare agencies, on April 14, 15 and 16, was more successful than any before held. The limited seating capacity of the riding hall was taxed to the limit at all performances.

With the winter schools, horse shows and exhibition drills over, May and June will be devoted to spring training, range firing for all weapons and the preparation for summer camps. Rifle and 1,000 inch light machine gun firing will be conducted this year, as in the past, on the District of Columbia National Guard Rifle Range at Camp Simms, Anacostia, D. C., the Machine Gun Troop will fire the 1,000 inch course at Fort Myer. Mounted Pistol will be conducted at Fort Belvoir, Virginia, each troop marching down in turn and returning upon completion of the firing.

Lieutenant C. B. McClelland has the regimental rifle and pistol team under instruction, and entertains hopes of winning the inter-regimental matches in both weapons. Following the policy of the Chief of Cavalry to concentrate the regimental teams, where the regiments are split, at one post, the entire team is working at Fort Myer. First Sergeant Stanley A. Blazejevski, Corporal Francis E. Ghormley and Private Ernest C. Dimello having been ordered to join the regiment from the 1st Squadron at Fort Ethan Allen, Vermont.

In keeping with the best traditions of the regiment, the second squadron will turn out to escort the President of Nicaragua when he visits the National Capital on May 5, and again on June 10 they will turn out for the King and Queen of England, thereby adding to the regimental laurels as "Escort for Presidents and Kings."

Troop E, with a detachment of Machine Gun Troop, consisting of one caliber .30 machine gun squad, one caliber .50 machine gun squad and one 37-mm. gun squad attached, and the Scout Car platoon will take part in the Engineer School demonstration and field exercises, May 17 to 20. The demonstration will consist in part of the mechanics of a cavalry troop with automatic weapons attached, and the employment of scout cars in reconnaissance.

The Scout Car Platoon will take part, also, in the maneuvers of the New Jersey and Pennsylvania National Guard at Indiantown Gap, Pennsylvania from June 8 to July 1, returning to Fort Myer for the turnout for the King and Queen of England. It speaks highly for the efficiency of the platoon that each year they are specially requested by the authorities of both these states.

Captains Basil G. Thayer and P. M. Morton, Cavalry, will report for temporary duty in connection with the Cavalry ROTC camp, which opens at Fort Belvoir, Virginia on June 17th. At the same time some twenty-five recent ROTC graduates will be camped at Fort Myer for their first tour of active duty as second lieutenants of Cavalry-Reserve.

The following officers, now on duty with the regiment, are under orders to report to new stations:

Captain T. J. H. Trapnell to the Philippines.

Captain L. G. Smith to the Command and General Staff School.

The following officers have been assigned to the regiment and will join upon completion of their present tours:

Majors John A. Hettinger and Edwin M. Sumner.

First Lieutenants Paul D. Harkins, James K. Polk and David Wagstaff, Jr.

Captain Lawrence R. Dewey reported for duty on April 1, 1939.

5th Cavalry—Fort Clark, Texas

COLONEL CUTHBERT P. STEARNS, *Commanding*

Throughout the month of March the Regiment carried out routine spring training to culminate in the tactical inspection of the Corps Area and Division Commanders about the first week of April. An outpost problem and entraining exercises kept the troops off the Post for about three days during the month.

The Division Commander, Brigadier General Kenyon A. Joyce arrived at Fort Clark in the afternoon of April 7th, a reception in his honor was held at 9:30 that night. On the morning of the 8th, the Regiment and Brigade Headquarters Troop passed in review for the Division Commander on the drill field. Following the review, General Joyce, accompanied by the Eighth Corps Area Commander, Major General Brees, inspected the tactical training of the troops, the barracks and the stables. The full day was culminated by a dance at the Officers' mess.

On April 12th, the Regiment started north on a week's practice march to Rock Springs and return by a different route. The march was made under an assumed tactical situation which demanded on the 17th and 18th, a forced

march of 56 miles in twenty-four hours involving a night march. On the 19th the Regiment had a delaying exercise with the 69th Coast Artillery, which was moving on Fort Bliss. A Tea Dance was held in the afternoon for the Officers of the visiting Regiment.

Army Day was celebrated on the 27th of April. Civilians from the neighboring towns of Del Rio, Brackettville, Eagle Pass and Uvalde were cordially invited to visit the Post on that day. The two hundred odd who accepted saw a review, and a section of Scout cars, a Machine Gun platoon, and a Rifle platoon demonstrate a method of attack in the morning. Before lunch in the troop messes, those visitors who desired were permitted to fire the service rifle and the heavy machine gun. Prior to the Horse Show held at 2:00 P.M., all types of equipment and arms were put on display.

Boxing bouts held once a month in the evening have, for the past few months afforded the personnel of the post fine entertainment. The cards were excellent. There have been bouts in all recognized classes between the enlisted men and between several fighters from San Antonio in the lightweight class. The fights have so gained in popularity recently that on April 26th the Post Arena had a capacity crowd.

The Inter-Troop Baseball League got under way on April 1st; at this date, May 4th, Troop "E" tops the standing. The Regimental Team will not start its schedule until the completion of the above competition.

The Regiment was host from May 2nd to May 13th to the Rifle teams from Fort Brown, Fort Ringgold, and Fort Bliss which came to Fort Clark for the Cavalry Division Rifle and Pistol Team tryouts.

Since the last issue Captain Murray B. Crandall has left this Post for new station at Fort Riley, and Major Albert F. Vaughn has arrived as Post Chaplain.

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6th Cavalry—Fort Oglethorpe, Georgia

COLONEL GEORGE DILLMAN, *Commanding*

The regiment concentrated its training in preparation for combat firing at Fort McClellan, Alabama, during the period April 28-May 4, 1939. Anti-aircraft firing was held on the 1,000″ range at Fort Oglethorpe with very satisfactory results. Each squadron of the 6th Cavalry and the Machine Gun Troop spent one week at Catoosa Target Range, during which time musketry problems were held by each troop.

The Machine Gun Troop completed its machine gun firing on the 1,000″ range, qualifying 23 experts. Private Herman A. Arthur, Machine Gun Troop, 6th Cavalry, made a score of 197 out of a 200 possible score.

On April 22d the regiment left Fort Oglethorpe en route to Fort Benning Georgia, to participate in the 8th Brigade Maneuvers, stopping off at Fort McClellan, Alabama, to complete its anti-aircraft and combat firing. This firing was held during the period April 28-May 4, 1939. On May 5th the regiment left Fort McClellan, Alabama, marching via Chullafinne (Roanoke, LaFayette, Opelika, Phenix City to Fort Benning, going into camp at Ochillee, on the Fort Benning Reservation. The regiment arrived at Ochillee on May 11, 1939.

During the period May 15-20, the 6th Cavalry will participate in the 8th Brigade Maneuvers at Fort Benning, leaving Fort Benning on May 20 en route to Fort Oglethorpe, Georgia.

On Army Day the Regiment observed "Open House" and invited our civilian friends and members of the Regular Army Reserve from Chattanooga and vicinity to visit the Post, examine the exhibits, and go through the barracks, messes, and stables. On the parade ground was a display of all cavalry weapons, the scout cars, and radios. Guides were provided to escort visitors. In the afternoon, the ceremonies of formal guard mounting and a mounted squadron parade were well attended.

The Regiment observed Organization Day, May 4th, at Fort McClellan, Alabama. The Regiment was formed in line of masses, dismounted, and all men who had joined since last Organization Day filed past and saluted the standards. A congratulatory telegram from the Chief of Cavalry was read, and also one from a number of former members of the Regiment now serving in Panama. A brief history of the Regiment was then read by 2nd Lieutenant Thomas L. McCrary, the last officer to join the Regiment. The ceremony was then terminated by an address by Colonel George Dillman, the Commanding Officer.

Orders have been received assigning the following officers to the Regiment this summer: Major Herbert L. Earnest, Captains William O. Heacock, Elmer V. Stanbury and Charles E. Morrison, and Lieutenants Thomas F. Taylor and Brendan McK. Greeley.

The hunting season closed officially on April 8, 1939, with the annual Point to Point race. There were 13 fences and four miles of extremely interesting and varied "Going" (Pasture, woodland, wasteland, some plow and altogether not more than ¾ mile level ground) in our new territory in the Catfish Section. From the spectators' point on top of Jenkins' Hill, the major portion of the course as well as start and finish and 8 fences could be observed. There was a large crowd present including members of the garrison, visitors and farmers and landowners and their families. The first race, "The Master's Cup" (donated by the Master) was won by Lieutenant Holderness on *Wooly Lamb*. The black mare came in powerfully strong and still ambitious to go. Second was Lieutenant Hoy on *Star,* third, Major Burnett on *Baby Pat,* and fourth, Captain Berry on *Graves*. There were eighteen entries for this race.

The second race, "The Soldier's Hunt Cup" (donated by Captain Thornburg) was won with ease by Corporal Brush, Troop A, on *Long Shot*. Second was Corporal Ferguson, Troop F, on *Sam W*. Third, Sergeant Massengale, Troop E, on *Cleo,* and Fourth, Sergeant Cotton, Troop F, on *Goldie*.

7th Cavalry—Fort Bliss, Texas

COLONEL WILLIAM W. WEST, *Commanding*

Polo in the regiment is progressing in the manner outlined by Lieutenant Colonel Pearson, member, the post polo representative. The objective for the spring and early summer is to develop as many new players and young horses as possible. The polo squad in the regiment consists of ten players. These players have been split into two evenly matched teams and designated as the 7th Cavalry Whites and 7th Cavalry Yellows. Each team has been playing two games a week with the other post teams since April 1st. The quality of polo is improving from week to week and by the 1st of June we will have two well balanced teams. Lieutenant Wilson captained the Fort Bliss polo team in the three-game series against the visiting Mexican Army polo team during the first part of May.

In a well publicized soft ball game on April 23d the 7th Cavalry officers under the masterly pitching of Lieutenant Boyle swamped the challenging 8th Cavalry officers' team by approximately 28 to 5.

The training of remounts in the regiment is conducted on the principle that there is a man in the regiment whose capabilities and temperament can be matched to suit those of any remount that we might receive. It is the responsibility of the officer in charge of remount training to find a good home for each horse. A large majority of the officers and non-commissioned officers of the regiment are now mounted on better than average horses which they have personally selected and trained. In the last informal horse show, *Ugly*, a remount trained by Sergeant Hutson, Troop "A," won a first place and another remount trained by Sergeant Ford, Machine Gun Troop, won a fourth place in the green jumpers class. A car load of remounts was received on April 15, 1939, and these horses are just starting their training under a carefully selected list of riders. First Sergeant Shrout has selected one of these to school for the best trained remount class in the next Cavalry Division Horse Show.

A regimental dinner dance was held at Waterfull Gardens in Zarogosa, Mexico, on May 12th, honoring the officers and their families, who are scheduled to leave the regiment soon. About eighty attended and a very enjoyable party came to an end only with the closing of the bridge at midnight.

The entire regiment took part in the Army Day parade in El Paso on April 6th, and, in spite of a disagreeable day, with mixed sand storms and snow flurries, we made a creditable showing.

A regimental horse show was held on Saturday, February 18, 1939, in the 7th Cavalry Jumping Arena. There were four classes run off and they were designed principally to develop green horses and inexperienced riders. This show, while very informal in character, was excellent preparation for the more formal Post Shows, which were to follow.

A Post Horse Show was held on April 19th. In preparation for this all horses and riders were turned out to work four afternoons a week under the Regimental Horse Show Representative. These riders worked faithfully and hard, under very unfavorable weather conditions. As a result, in Class I, for Green Jumpers, the Regiment took 1st, 3rd and 4th places. In Class II, for Novice Riders, it took, 1st, 2nd and 3rd places. In Class III, a seat and hands class for Non-Commissioned Officers, it won 1st Place. In Class IV for Open Jumpers, the regiment got a fourth place only on the jump-off, after having nine horses go clean the first time around. This show, the first of a series to be held during the year, was competed in by all units stationed at Fort Bliss.

The Horse Show squad is at present working consistently at least four afternoons a week, developing horses and riders for other Post Shows to be held periodically throughout the year. The first of which will be held on May 19th next.

A Post Horst Show Team, selected from the 7th and 8th Cavalry, left for the Fort Sill-Leavenworth-Rily circuit on May 5th, with Captain Bixel, 7th Cavalry in charge.

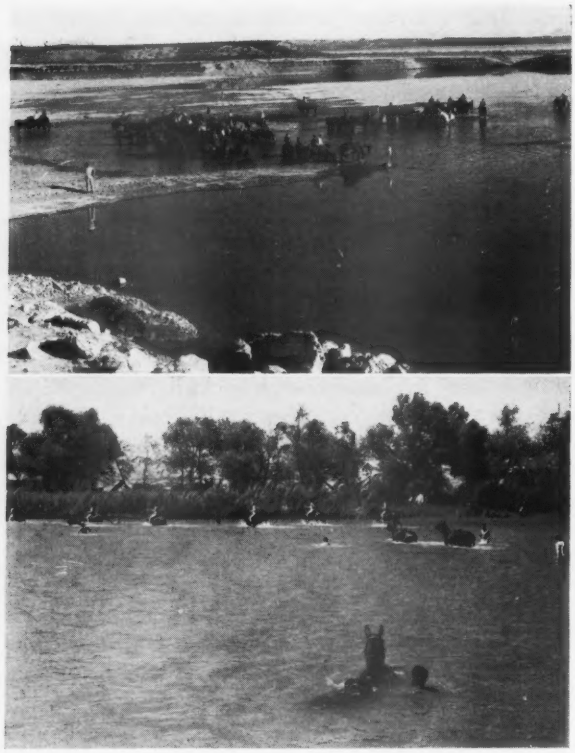
Captain Finnegan and a squad of nine enlisted men left on April 28th to participate in the Cavalry Rifle and Pistol Tryouts at Fort Clark. Quite a bit of mechanical trouble necessitating changes in arms held us to the middle bracket in the Caliber .22 competitions but careful planning to eliminate all this in the service ammunition tryouts at Fort Clark should see us in position to supply excellent competition. The team has been rearranged considerably, several old members dropped and one or two new members added. Caliber .22 firing was alternated with dry shooting as preliminary work to targeting in and competitive squad firing. All arms have been thoroughly checked by the Ordnance Department to include front and rear sights and trigger pulls. If careful planning and cheerful endeavor can assist in any way the Garry Owens will be found fighting the leaders in the service tryouts and doing their part in the next National Matches at Camp Perry.

Regimental training during April included combat and known distance firing at the Fort Bliss Target Range (Dona Ana, New Mexico) on the 10th and 28th. The type of problem was squadron in the attack. On April 7th the regimental field exercise took the form of a march under an assumed tactical situation. A regimental review and inspection was conducted on the 22nd. A special schedule was followed for the training of a number of reserve officers on active duty with the regiment from April 2 to 15, culminating in a controlled point-to-point ride.

On May 8 and 9 combat firing by squadrons was again conducted at Dona Ana. A regimental review was held on May 6. On May 16, the regiment will depart on a twelve-day practice march to Scott-Able Canyon, in the Sacramento Mountains, and return.

Retirements since last notes: Master Sergeant George E. Lewis and Master Sergeant Frank T. Candler.

Losses since last notes: Lieutenant Colonel Harding Polk to Chicago.



Top—Easy watering. Bottom—Swimming practice.

8th Cavalry—Fort Bliss, Texas

COLONEL INNIS P. SWIFT, *Commanding*

On March 6th the regiment was inspected by the Inspector General, 8th Corps Area, and received commendation.

On March 16-18 the Division Commander conducted a field exercise very similar to that conducted during the recent Third Army maneuvers. The regiment as part of the 2d Cavalry Brigade left Fort Bliss under the provisions of a confidential Alert Plan and marched to Fort Bliss Target Range, fighting a meeting engagement en route. The bivouac at Fort Bliss Target Range was outposted during the night 16-17 March. The brigade advanced to Fillmore Pass early 17 March, met strong resistance, attacked and caused hostile withdrawal by a maneuvering force composed of the entire 8th Cavalry. Hostile reinforcements caused the brigade to assume the defensive on Fillmore Pass until dark 17 March when a night withdrawal to the east of Mount Franklin, in the vicinity of Hitts Ranch, was executed. The exercise terminated at daylight, 18 March, when the brigade marched to Fort Bliss.

The Division Commander conducted the tactical inspection of the regiment on March 28th. Organizations designated by the Division Commander conducted close and extended order drill, equitation, jumping, combat firing by rifle and heavy machine gun platoons, road blocks and actual demolition of these blocks. The regiment again received a commendation on its state of training.

On April 1 the regiment participated in a division review held in honor of a group of Mexican visitors.

During the period April 2-15 Lt. Trujillo, Lt. Klingenberg, Lt. Miller, Lt. Warren, and Lt. Davis, Cavalry Reserve, trained with the regiment.

On Army Day, April 6, the garrison of Fort Bliss paraded in El Paso. The command experienced one of those weather phenomenon peculiar to the Southwest. The day started warm and sunny but by the time the troops reached El Paso a norther blew in and the return trip to Fort Bliss was made in a high wind, rain, sleet, and snow.

The annual practice march was conducted from 2 May to 13 May. The regiment went to Caballo Dam, New Mexico, under a tactical situation requiring the protection of the dam. Bivouacs were made at Fort Bliss Target Range, Las Cruces, Radium Springs and Rincon. The U. S. Bureau of Reclamation, which built and maintains Caballo Dam was very generous and coöperative in allowing the regiment to use various buildings on the dam site which added greatly to the pleasure and convenience of the men and officers. The return to Fort Bliss started on May 9 and concluded on May 12-13 with a 60-mile march from Las Cruces to Fort Bliss in 24 hours, the last five hours during darkness.

The regiment took advantage of the opportunity to water and swim horses at bivouacs along the Rio Grande at Radium Springs and Rincon. (Four pictures attached to be used if practicable.)

Captain C. H. Valentine, Lieut. Bruce Palmer, and Lieut. Brooks Wilson, of this regiment were selected with Lieut. Harry Wilson and Lieut. H. M. Estes of the 7th Cavalry to represent Fort Bliss in a series of international polo games with the Mexican Army Polo Team Marte, the ranking polo team of Mexico. Three games were played April 30, May 4, and May 7. The Mexican team won two of the three games. The play was characterized by bold, clean riding and accurate stick work, and the series was conceded to be the best brand of polo seen in this section of the country in many years.

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13th Cavalry—Fort Knox, Kentucky

COLONEL CHARLES L. SCOTT, *Commanding*

The annual inspection of the regiment by the Corps Area Commander was completed on April 12th. The men and "mounts" of the regiment were, as usual, turned out in true cavalry style.

On May 1, the 13th Cavalry celebrated its 38th birthday. The Regiment was assembled and was fortunate to have among its guests, the Chief of Cavalry. After short addresses by Major General John K. Herr, Brigadier General Adna R. Chaffee and Colonel Charles L. Scott, the Regimental Sergeant-Major, Master Sergeant Patrick McGill, briefly described the highlights of the Regi-

mental History. Sergeant McGill is particularly qualified for this assignment as his entire service has been with the 13th Cavalry. A baseball game between the officers and noncommissioned officers of the first three grades followed the ceremony. Result: Noncoms 11; Officers 10. The scorekeeper was unable to furnish the other box score details such as hits, errors, putouts, etc. At the conclusion of the ball game, Dutch lunches were enjoyed in all troop messes.

During his visit to the regiment, the Chief of Cavalry inspected all vehicles in the regiment including the original and modified mortar mounts. He further had the opportunity of observing troop problems of the Machine Gun Troop, the Reconnaissance Troop, and the Combat Car Troops. His visit was concluded with a field exercise in which all units of the 7th Cavalry Brigade participated.

26th Cavalry (P. S.)—Fort Stotsenburg, P. I.

COLONEL CLARENCE A. DOUGHERTY, *Commanding*

Members of the 26th Cavalry (PS) gave a good account of themselves by winning eight 1st places, five 2d places, four 3d places, and six 4th places out of fifteen classes in the Philippine Department Horse Show in Manila, February 18th and 19th. The old "stand-bys" *Colonel,* Capt. Ridge up; *Friday,* Miss Sally Wilson up, and Sergeant Tuana, with his string of horses were conspicuously successful.

The target practice is well under way. Machine Gun Troop has completed its regular range practice and is now in the field for ten days for combat practice.

The annual Sports Week was held March 16-22. Five visiting polo teams and a large number of horse-show participants and visitors from Manila helped to make this activity a complete success.

The Regimental baseball team under the able coaching of Captain A. W. Farwick promises to give a good account of itself this year.

A "sub-junior hunt" for children ten years of age and under, was held Sunday morning, April 2d. Little Miss "Paddy" Bayne was hostess to this group of young equestrian enthusiasts at a hunt-breakfast following the ride.

Colonel Andreas, honorary Colonel of the 26th Cavalry, sponsored an Easter-egg hunt for the children of the officers and American noncommissioned officers of Fort Stotsenburg on Easter morning. He also sponsored a controlled ride followed by a breakfast at the Stotsenburg Club for the officers of Fort Stotsenburg, their families and guests. Very attractive prizes were awarded to the three ladies and the three gentlemen having the highest scores. Miss Carol Clayton, Mrs. R. A. Blount, and Miss Betty Jones of Fort William McKinley were the recipients of the ladies' prizes and Master Ed Nelson, Don Nelson, and Lt. Ralph E. Haines won the gentlemen's prizes. Colonel Andreas has sponsored these activities each Easter for the past several years.

Lieutenants Wm. G. Bartlett, R. E. Arnette, and J. R. Barker have joined the regiment. They arrived on the March transport.

Colonel E. W. Taulbee and Captain R. L. Land departed for their new stations on the March transport.

103rd Cavalry—Tyrone, Pennsylvania

COLONEL BENJAMIN C. JONES, *Commanding*

The regiment mourns deeply the death of 1st Lieutenant Edward C. Fisher, Troop E, Sunbury, which occurred on April 21. Lieutenant Fisher, a highway construction foreman, was shot at the back of the head and almost instantly killed by a disgruntled laborer of foreign birth. Full military honors were accorded at his funeral on April 24th.

Sergeant John A. Goodwill, Troop B, Philadelphia, was seriously injured in an automobile accident in Philadelphia on May 3. He spent two weeks in the Cooper Hospital at Camden, New Jersey, and is now well recovered. Sergeant Goodwill was the winner of the Regimental Noncommissioned Officers' Night Ride last year at camp.

The regiment will go to Indiantown for Field Training on June 17th, a date that will mark its reorganization as a component part of the 22d Cavalry Division. The changes that will occur will be quite radical. Instead of having squadrons of three troops, the regiment will have squadrons of two troops each. Only five of our present units will remain with the regiment, the troops at Sunbury, Lewisburg, Lock Haven, and New Castle and the Band at Northumberland. The regiment will lose all of its Philadelphia units. Troops A, B, and C will become part of the 104th Cavalry; Troop L will become Headquarters Battery, 166th Field Artillery; Medical Detachment will be transferred from this regiment to the 166th Field Artillery; Headquarters Troop will become 22d Signal Troop.

The regiment will also lose its present Machine Gun Troop at Bellefonte, and Troop I at DuBois, both of which will become Gun Batteries of the 166th Field Artillery.

The regiment will gain four units that are now part of the 104th Cavalry, the troops at Altoona, Tyrone, Clearfield, and Punxsutawney. There will be organized for the regiment a new Medical Detachment stationed at Sunbury. Regimental Headquarters will continue at Tyrone.

Everyone in the regiment regrets the departure of Major Maurice Rose, who will leave after camp to attend the Army Industrial College. But the announcement has been noted with pleasure that Major Burton C. Andrus now stationed at Ft. Knox, Kentucky, will come to Pennsylvania this summer to succeed Major Rose as regular army instructor. And these mountain cavalrymen are delighted to have with us now stationed at Sunbury as regular army instructor an old and dear friend in Major George H. Millholland who is this summer beginning his third four-year tour of duty with Pennsylvania Cavalry.

106th Cavalry—(Illinois Component)

MAJOR RALPH G. GHER, *Commanding*

Machine Gun Troop, Troop F, and members of the staff located in Springfield, attended the funeral of Brigadier General Richings J. Shand, Assistant Adjutant General, in Springfield, on March 28th. Machine Gun Troop and Troop F, forming a composite troop, acted as mounted escort. Noncommissioned officers of these troops were detailed as active pallbearers.

Captain H. P. Macnamara, M.C. 106th Cavalry, was recently elected president of the Springfield Saddle Club, a civilian organization of horsemen and horsewomen. Captain Mark Plaisted, Machine Gun Troop, was elected a director. The club has established club rooms in the 106th Cavalry stables, and uses the organization-owned animals of Troop F and Machine Gun Troop.

The second change in commissioned personnel in a number of years was caused by the transfer of Lieutenant Paul Yoggerst, Troop F, to the inactive national guard, and the promotion of 1st Sergeant Charles Greenup to the rank of 2d Lieutenant. Lieutenant Greenup has a record of sixteen years in the 106th Cavalry, and is well qualified for his new position.

Major E. A. Franklin, Army instructor with the 106th Cavalry, made the annual Federal Inspection of the Michigan units of the regiment in Detroit, South Haven, and Alma, Michigan.

The Federal inspections of Headquarters Troop, Machine Gun Troop, and Troop F were conducted by Major Alton Howard of the Army. All inspections down-state were attended by Major Gher and Captain Crookston, the Adjutant. Major Gher was also present at the inspection of the Band and Troop E in Chicago.

Lieutenant Richard Place, Personnel Adjutant, has been promoted to the rank of 1st Lieutenant after serving for a year as a second lieutenant in lieu of higher grade.

Lieutenant J. T. Walker, Troop F, who is a licensed pilot, offered an airplane trip to each man in the troop who succeeded in securing a certain number of suitable recruits. Lieut. Walker's week-ends have been spent recently in "paying off."

Sergeant Delmar Hughes, U. S. Army, who has been stationed in Urbana with Headquarters Troop, has been transferred to the Springfield station effective May 1st.

Major Gher and Captain Crookston attended the meeting of organization commanders and executives of the 33d Division, held in the Union League Club in Chicago on April 18th. Plans for the forthcoming tours of duty, training programs, armory building program, etc., were discussed.

Lieutenant James Bradley, Dental Reserve, who is attached to the 106th Cavalry for training, will attend the National Reserve Officers' convention in Porto Rico in June.

Captain Charles F. Sleeper, Supply Officer, and Lieutenant W. F. Hewitt, Adjutant 2d Squadron, both of Chicago, were present at the inspection of regimental headquarters, conducted in Urbana, on March 15th.

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109th Cavalry—Tennessee

COLONEL I. R. SUMMERS, *Commanding*

The "A's" have it. At least insofar as marksmanship is concerned. Troop "A" beat Company "A," 117th Infantry, by only eight points to win the National trophy awarded annually by the War Department to the rifle company, rifle troop, or combat company, or troop of engineers of the National Guard in each State attaining the highest figure of merit in its record practice with the rifle. The regimental commander has continually emphasized the importance of marksmanship in the regiment since he has assumed command. Results are beginning to show.

With the inspection of Headquarters Troop at Columbia on April 27, the Federal armory inspection was concluded for the regiment. The headquarters troop for its training inspection put on a CPX run entirely by the troop noncommissioned officers in which they demonstrated the various functions and duties of the personnel of this troop.

Either the regimental commander or adjutant was present at the inspection of every troop with the exception of Troop "K" at Clarksville, Tenn. All visitors to Columbia, Tenn. are convinced that this town can raise frog legs as well as put on their nationally famous "Mule Day."

The state armory board, recently announced by Governor Prentice Cooper, has allotted funds to Memphis ($75,000), Nashville ($75,000), Chattanooga and Knoxville ($50,000 each) to be matched by local appropriations and the total to be matched by Federal funds. Other towns in the state are to be allotted funds from a remaining $100,000 state appropriation.

Lt. Gordon S. Hammond, Troop "A," has been promoted to and has received notice of Federal recognition as 1st Lieutenant. Lt. J. Richard Fancher, MC, has been ordered to appear before an examining board to test his qualifications for appointment to Captain. Sergeant Hugh W. Nixon, Troop "B," has been ordered to appear before an examining board to test his qualifications for appointment as 2d Lieutenant. Sergeant William O. Terry, Troop "I," has made application for appointment as 2d Lieutenant of Cavalry in the inactive National Guard.

The regiment will go to Fort Oglethorpe, Ga., July 30 for its field training. Most of the "Oldtimers" are referring to Oglethorpe as a summer resort as compared to their last scene of field training, DeSoto National Forest, Miss. Plans are being made to carry out the major effort for this year ("The careful planning and direction of training by all concerned so as to make the most effective use of the means available to accomplish the prescribed training objectives"), so as to include the recreation time of field training. To this end sight-seeing trips to the bat-

tlefields in and about Chattanooga, Missionary Ridge, Lookout Mountain, are some of the things planned.

111th Cavalry—N.M.N.G.

COLONOL CLYDE E. ELY, *Commanding*

The Annual Armory Inspection has been completed and the regiment has now settled down to intensive work in preparation for the field training period which will take place at Camp Luna, Las Vegas, N. M., August 6th to 20th. Included in field training this year for the first time will be a Platoon Test patterned after the "Cavalry Leadership Test for Small Units" in which all twelve rifle platoons of the Regiment will take part. The test will include musketry, marching, combat, reconnaissance, and a bivouac for the night.

The new radios SCR 209-A for the Scout Cars of Headquarters Troop have been received. They will be driven overland to Fort Bliss, Texas, where personnel of the Signal Corps will install the new sets. The SCR 209-A is a voice and CW set; is very compact and should stand a lot of hard use.

The 2d Squadron began showing of War Department Training films Sunday, April 23d, at Deming, for members of Troop E, staff officers of Deming and interested citizens. Five of these films will be shown by August 1st. The same films will be shown at Silver City for members of Troop F and others interested, starting Sunday, April 30th.

The 111th Cavalry Special Command and Staff School convened at the Silver City armory on April 19th at 8:00 P.M. for the regular scheduled bi-weekly staff school. This session was designated by Major Gyles Merrill, Cav., U.S.A., Instructor 111th Cav., for the Annual Armory Inspection of the Regimental Staff. The first concentration point was the home of Colonel Ely where a buffet supper was served to all the school contestants. Those present besides the host were: Major Gyles Merrill, U.S.A.; Lt. Col. Charles G. Sage, Capt. O. B. Witten, Capt. Henry M. Miller, Major Memory H. Cain, 1st Lt. Claud W. Stump, 1st Lt. Ben W. Fields, and 1st Lt. William F. Ely.

Capt. Henry M. Miller, Plans and Training Officer, was detailed to Silver City for ten days during April to compile the training programs, schedules and platoon test exercises for the coming field training period, August 6th to 20th.

Capt. Winnifred O. Dorris, Commanding Officer of Machine Gun Troop, is at present attending the National Guard officers class at the Cavalry School, Fort Riley, Kansas.

Each troop of the regiment will send a team of five men to compete in a shoulder to shoulder rifle match at Camp Luna, June 10-11, for the purpose of selecting a team to send to the National Matches at Camp Perry. Great interest has been shown and competition for places on the State team promises to be keen.

The Grant County Gun Club and Troop F fired the first stage of the Coronado Cup match on the new Hollett Target Range, April 30. The match is fired annually with all active rifle clubs competing. The second stage will be fired May 7th.

112th Cavalry—Dallas, Texas

COLONEL CLARENCE E. PARKER, *Commanding*

On March 19th the regiment completed its Annual Federal Training Inspection most satisfactorily. General Walter B. Pyron, the Brigade Commander, took this occasion to make his spring inspection of the regiment. He accompanied the Federal Inspector, at the inspection of each unit of the regiment, and was very much pleased at the fine showing made by all.

Orders have been received that the regiment will go to Camp Wolters, Mineral Wells, Texas, from July 8th to 23d, for its annual period field training, and all units are preparing and looking forward to this yearly event where the whole brigade is together, and old acquaintances with the 124th Cavalry are renewed.

A surprise awaits all units upon arrival at Camp this summer as great improvements have been made during the past year.

The Brigade owes a vote of thanks to Major W. P. Cameron, 112th Cavalry, who secured WPA funds for the needed improvements, and to Lieut. Allan Wallace, Assistant S-4 of the regiment, who was in charge of constructions. Through the untiring efforts of these two officers Camp Wolters is now a model camp.

The Intermediate Phase of the Cavalry Leadership Test for platoons, being conducted in the regiment, was completed on April 16th as scheduled, and the platoons of Troops B, E, and F have completed the Final Phase, as this article goes to press. This test has produced great results and much valuable instruction in the basic cavalry field training has been absorbed by all competitors.

On March 20th, Colonel Joseph A. Atkins, Infantry, the new Officer in Charge of National Guard Affairs in the Eighth Corps Area, made an informal inspection of all units of the regiment. Colonel Atkins inspected the Armory and stable facilities of all troops and found everything in very satisfactory condition. He was particularly pleased with the remounts recently furnished the regiment by the Fort Reno Remount Depot.

At the Dallas Horse Show, held on April 30th, Lieut. J. H. Neal, on his beautiful thoroughbred polo pony *Silver Lady,* won first place in the Light Polo Pony Class.

At this same show Corporal Buster Ford, Troop A, on *Silver Taps,* 1st Sgt. Campbell's fine jumper, won the blue ribbon in the open jumping class. Several other members of Troop A took second and third ribbons in the jumping classes.

Captain Royal G. Phillips, Commanding Troop F, 112th Cavalry, at Tyler, Texas, held a unique ceremony at the dismissal formation of his troop on Sunday, April 30th. *Old Abie,* Stable Sergeant Norman's famous horse,

was brought into the Armory and with 1st Sgt. Toliver and Sgt. Norman on his right and left facing the troop at attention, the article that was published in the last issue of the CAVALRY JOURNAL was read to *Old Abie* and the entire troop, by Lieut. Manly Hood. At the close of the article the troop presented arms to *Abie* and the two sergeants whose "real love of the horse" brought *Old Abie* "with his heart of gold" back from death.

Sgt. Norman swears that *Old Abie* understood every word that was said about him and enjoyed the ceremony from start to finish.

The following named officers have recently been promoted in the regiment and are being congratulated by all:

Major Albert S. Johnson to Lieut. Colonel.
Captain John B. Dunlap to Major.
1st Lieut. William M. Hill to Captain.
2d Lieut. Melton L. Bass to 1st Lieut.

The sterling qualities of our beloved Chaplain, Bertram L. Smith are shown by an article recently published in the *Dallas Morning News*. This article states in gist as follows: "The spiritual quality of the *Dallas Morning News* corps of carriers noticeably improved last week. The Rev. Bertram L. Smith, rector of Christ Episcopal Church, has been carrying a route for his son, Bertram L. Smith, Jr., who is ill. Arising at 3:00 A.M., to make his rounds, the reverend carrier had to step fast to finish in time for 7:00 A.M. services. He finds it interesting. 'It gives a parent a chance to find out what his son faces,' he said. 'I recommend it to every father.'"

We have always boasted that our Chaplain is the finest in the Army, and the above article confirms our boast.

On the date that Staff Sergeant John B. Menard, DEML, completed 10 years as our Regimental Sergeant Instructor, he had filed with his record, a fine letter of commendation, through channels, from Major W. P. Cameron, Commanding the 1st Squadron, for the excellent work Sergeant Menard had done in the regiment since being assigned.

62d Cavalry Division—305th Cavalry—Philadelphia, Pa.

COLONEL VINCENT A. CARROLL, Cav.-Res., *Commanding*

The annual regimental dance was held on March 17, at the Germantown Cricket Club. All who attended voted this dance the best we have ever held. The orchestra really did "swing it" and when two A.M. arrived and the crowd refused to leave, they played right on until 3:15. Lt. Sam Naftzinger produced a floor show extraordinary including an acrobatic dancer who did the physically impossible.

On the evening of March 31st, eleven teams of two officers each, set forth from Media Inn to find the stations in the Mechanized Night Ride. Capt. Doug Morrow and Lt. Ken Read proved themselves the expert map readers of the regiment by completing the course in 74 minutes. This was a novel problem prepared by Lt. Forrest Riordan, based on his experience in such a ride on horseback at Fort Riley, Kansas, last spring.

The Regimental Day ceremonies were held on April 15 at the First City Troop Armory. Major Bell trained sixteen officers for an exhibition ride which was perfectly executed. This was followed by a jumping contest which was won by Capt. Ed Young who had a clean performance in the jump off against Capt. Jack Allen. Colonel Wilson, our unit instructor, gave a short talk followed by Colonel Carroll and Colonel Wm. Innes Forbes, former commanding officer. Lt. Forrest Riordan read the regimental history and Colonel Carroll then presented awards and prizes to the following officers: Major Frederick Streicher—The George G. Meade Cup for military efficiency; Captain Edward E. Young—a saber for the greatest contribution to *esprit de corps* of the regiment; Lieut. Samuel P. Naftzinger—boot trees for the greatest professional advancement; Lieut. Gerry L. White—trophy for best natural rider; Lieut. James C. Gentle—trophy for best trained rider; Lieut. James F. Mitchell, Jr.—trophy for most extension school work; Lieut. Harry T. Rosenheim—spurs for best attendance at mounted drill; Lieutenant Shaler Stidham—trophy for being the best treasurer since Alexander Hamilton; Capt. Douglas Morrow and Lieut. Kendall E. Read—map measures for winning the Mechanized Night Ride; Lt. Kendall E. Read—Military book for best military article published in the *Stallion*.

Following the awarding of the trophies, sandwiches and cocktails were served.

Major Streicher and Capt. Jack Allen are to be congratulated on their well-deserved promotions.

On Sunday, April 30, the Regiment put on its Fifth Annual Horse Show at the estate of Major Alfred Biddle at Newton Square, Pa. Despite the fact that the weather was cloudy and rain threatened, there were over thirty entries in the seven classes. An unusually large gallery witnessed the event and the members of the regiment received more than their share of the ribbons and trophies.

The following officers placed in the various classes:

Class II, Green Hunters—Lt. James Gentle, 2nd Place.

Class III, 305th Cavalry Hunter Trials:
Lieut. Frank Howley—First Place.
Lieut. Forrest H. Riordan, Jr.—Second Place.
Lieut. James C. Gentle—Third Place.

Class VI, Open Hunter Trials:
Lieut. Forrest H. Riordan Jr.—Second Place.

Class VII, Military and Hunt Club Teams:
Capt. John W. Watson, Lieut. James C. Gentle, and Lieut. Frank L. Howley—First place.

Thanks for this event go to Lieut. James Gentle, chairman of the horse show committee.

The activity in correspondence work has been intensified and more than enough officers are eligible to fill the regimental quota for active duty.

306th Cavalry—Baltimore, Maryland

COLONEL MATTHEW F. JAMES, Cavalry-Reserve, *Commanding*

All conferences during March and April were a continuation in the preparation of the Regiment for the training of the Cavalry CMTC. Officers of the Washington Squadron and attached Cavalry officers, had conferences by Lt. Col. Joseph L. Philips on "CMTC Orientation," by Lt. Mortimer B. Morehouse on "Care of Animals, Weapons, and Equipment," "Rifle and Pistol Marksmanship," by Lt. Robert W. Castle, Lt. Ernest St. Jacques, and Lt. Frederick D. Knoll. Capt. E. Humphrey Daniel and Capt. William I. Irby conducted the conference on "Light Machine Gun Marksmanship."

Emphasis has also been placed on preparation for CMTC duty at the regular rides at Fort Myer. Under the able instruction of Lt. Col. Edward B. Harry, 153rd Cavalry Brigade, and Major Edward A. Kane, 306th Cavalry, the troop officers have been given training in "Equitation" and "Mounted Drill."

A rifle team, Lt. Robert W. Castle, team captain, will represent the Regiment in the District of Columbia Competitive Matches to be held at the Marine Corps Rifle Range, Quantico, Va. These matches will begin May 14th and be held each Sunday until June 25th.

The officers of Baltimore heard Lt. Col. Bolles, Inf-Res., lecture on "Supply in the Field." Lt. Richard W. Loheed instructed on "The Manual of the Rifle," and Lt. Col. Wm. H. Skinner conducted the conference on "Care of Animals and Equipment," Capt. Henry G. Sheen had the subject "Scouting and Patrolling." During April, officers of all branches attended a lecture by Col. Bruce Palmer on "Antimechanization." A training film "Mounted Instruction Without Arms" was shown at this same conference. At the other conference Lt. Col. Wm. H. Skinner instructed in the "Manual of the Saber" and on "Arm Signals." Lt. Robert L. Beziat supplemented his instruction on "Mounted Drill-Squad" with a training film on the same subject.

Recent assignments to the Regiment were: Captain John F. Clagett, First Lieutenants Baxter C. Crane, Glen F. Leet, Douglas MacArthur, 2nd, Mountford H. Smith; Second Lieutenants Busey H. Howard, Robert G. Long, Wilfred S. McClaren, Harry G. Randall, and William B. Shelley. Relieved from assignment by Division orders were: Captain Edward M. Perkins, First Lieutenants Theodore A. Baldwin, George P. Frazer, Rowland F. Kirks, Laurie F. Hess, Howard H. Ruppart, Thomas G. Slater, and Second Lieutenant William W. Emory.

307th Cavalry—Richmond, Virginia

LIEUTENANT COLONEL R. B. H. BEGG, *Commanding*

Lieutenant Colonel Edward L. N. Glass, Cavalry, Unit Instructor, departed from Richmond, Virginia, on March 31, 1939, for Washington, D. C., under War Department Orders to temporary duty in the office of G-2, thence to Guatemala City as Cavalry Advisor to the Guatamalan Army. While the regiment regrets very much losing Colonel Glass as its instructor, the best wishes of the officers of the regiment for continued success are extended to him. Major Thomas B. Burgess, Infantry, Headquarters 80th Division, Richmond, Virginia, is acting as Unit Instructor of the regiment, pending the assignment of a Cavalry officer to replace Colonel Glass.

Colonel Bruce Palmer, Cavalry, Chief of Staff, 62nd Cavalry Division, conducted the regularly scheduled conference at Regimental Headquarters, Richmond, Virginia, on April 13, 1939. Colonel Palmer's subject was "Marching—Horse and Mechanized Cavalry." The Colonel has been one of the leaders in developing both horse and mechanized Cavalry and his talk was extremely instructive and interesting to those who attended the conference and heard him.

308th Cavalry—Pittsburgh, Pa.

COLONEL GEORGE H. CHERRINGTON, Cavalry-Reserve, *Commanding*

The regimental commander returned April 1st from his two months' vacation near Tucson, Arizona. The long stay in that healthful climate put the Colonel in excellent condition for business. On the day after his return the officers of the regiment staged a reception in his honor at the Training Center. He was met by a mounted escort some distance away and conducted to the clubhouse. Here the Colonel inspected the escort and later the stables and other installations. Upon conclusion of the inspection, luncheon and refreshments were served.

Training of the regiment has been progressing steadily, so far as the theoretical phase is concerned, and approximately twenty-four officers are already qualified for active duty. On the practical side, however, the weather has been responsible for delaying our usually early spring start. The first Wednesday period was conducted on May 3d with an excellent attendance, despite the coolness of the evening. Discounted pistol practice will be inaugurated on Sunday, May 7th, following mounted instruction. All the remaining conferences are scheduled to be held at the Training Center and will consist of one hour's mounted and one hour's theoretical work.

Our two officers at school are most enthusiastic about the courses. Captain J. T. Ross is attending the Staff School at Fort Leavenworth, and says that all that has been said of the great amount of work involved is a "gross understatement." He has been quite successful so far, however, in his problems and is decidedly keen for the military life. The family are with him, living in Leavenworth. Lieutenant J. Roy Degenhardt, attending the Cavalry School, is just as enthusiastic, and, judging by the scarcity of his letters, must be just as busy. He succeeded in getting his first fall within a couple of weeks and, since then, has been able to relax and enjoy himself. Mrs. Degenhardt will journey to Riley to spend the last month and imbibe the Cavalry atmosphere.

158th Cavalry Brigade—Franconia, N. H.

LIEUTENANT COLONEL C. H. GRIFFITH, Cavalry-Reserve, *Executive Officer*

The recent re-allocation of units of the 158th Cavalry Brigade placed the 315th Cavalry in Massachusetts, the 316th Cavalry in Rhode Island, Connecticut and Vermont, and the Brigade Headquarters and Headquarters Troop in New Hampshire and Maine. Although the officers assigned to Headquarters and Headquarters Troop are scattered over northern New England, with the greatest number of officers in any one town being in Portland, Maine (three), every effort is being made to overcome the handicap of this "dispersion."

The first opportunity this year for the brigade officers to meet was at the Contact Camp held on March 25th and 26th at Norwich University, Northfield, Vermont, under the auspices of the 3d Squadron, 316th Cavalry. An invitation to attend this camp was extended to all Cavalry Reserve officers in the First Military Area by Major John Brainerd, the squadron commander. Of the officers assigned to Brigade Headquarters and Headquarters Troop there were present at the camp Lieutenant Colonel C. H. Griffith, Executive Officer; Captain William E. Cornell, Adjutant; First Lieutenant Richard D. Wagner, Supply Officer; First Lieutenant William L. Stockman, Jr., Commanding Officer, Headquarters Troop; Second Lieutenant John F. Howe and Second Lieutenant John R. Kelly, Jr.

A most interesting and instructive program had been arranged for the camp by Lieutenant Colonel L. S. S. Berry, Cavalry, our unit instructor, and Major John Brainerd, Commander of the 3d Squadron, 316th Cavalry. All brigade officers wish to express their appreciation to these officers for the opportunity of attending, and most particularly to Lieutenant Colonel George S. Andrews, Commandant of Norwich University, for his hospitality and for placing at our disposal the excellent facilities of the University.

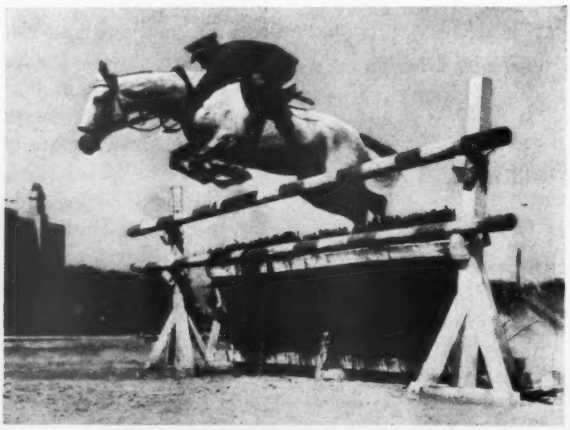
316th Cavalry (3rd Squadron)—Montpelier, Vermont

MAJOR JOHN BRAINERD, *Commanding*

The division of the First Corps Area into three Military Areas brings to the Cavalrymen of Vermont two great advantages. An entire squadron is now located within the state and a regular army instructor is stationed with us. Lieutenant Colonel Lucien S. S. Berry assumed command of the Rutland Sub-Area and also is unit instructor of the 3d Squadron of the 316th Cavalry. The other two squadrons of the regiment are located in Connecticut and Rhode Island.)

Vermont, through the ROTC Unit at Norwich University, has been graduating each year a fine type of well trained officer and it is around the Norwich graduates that the squadron is being built. The records indicate that of the one hundred officers assigned to the squadron, ninety per cent are Norwich men.

It was natural then to turn to Norwich University, with all the facilities it offers as a military college, for the gathering place for our first contact camp. The University willingly coöperated, and on March 25-26 thirty officers assembled for a two-day schedule that included equitation, musketry, movies, lectures, and a well conceived terrain exercise held in the mountain passes around Northfield. The squadron entertained the officers of the 158th Cavalry Brigade of New Hampshire and Maine and the reserve officers of the 1st Squadron of the 3rd Cavalry.

The success of the camp was made possible by the assistance of the University and Lieutenant Colonel George S. Andrew, the Commandant there, by the work of Lieutenant Colonel Berry and the enthusiasm of all squadron officers.

Contact camps at Norwich will, in the future, be a definite part of the inactive training of the squadron and will augment the troop schools and correspondence school work.